Vol. XXV JUNE 1931 No. 6

The EXCAVATING ENGINEER

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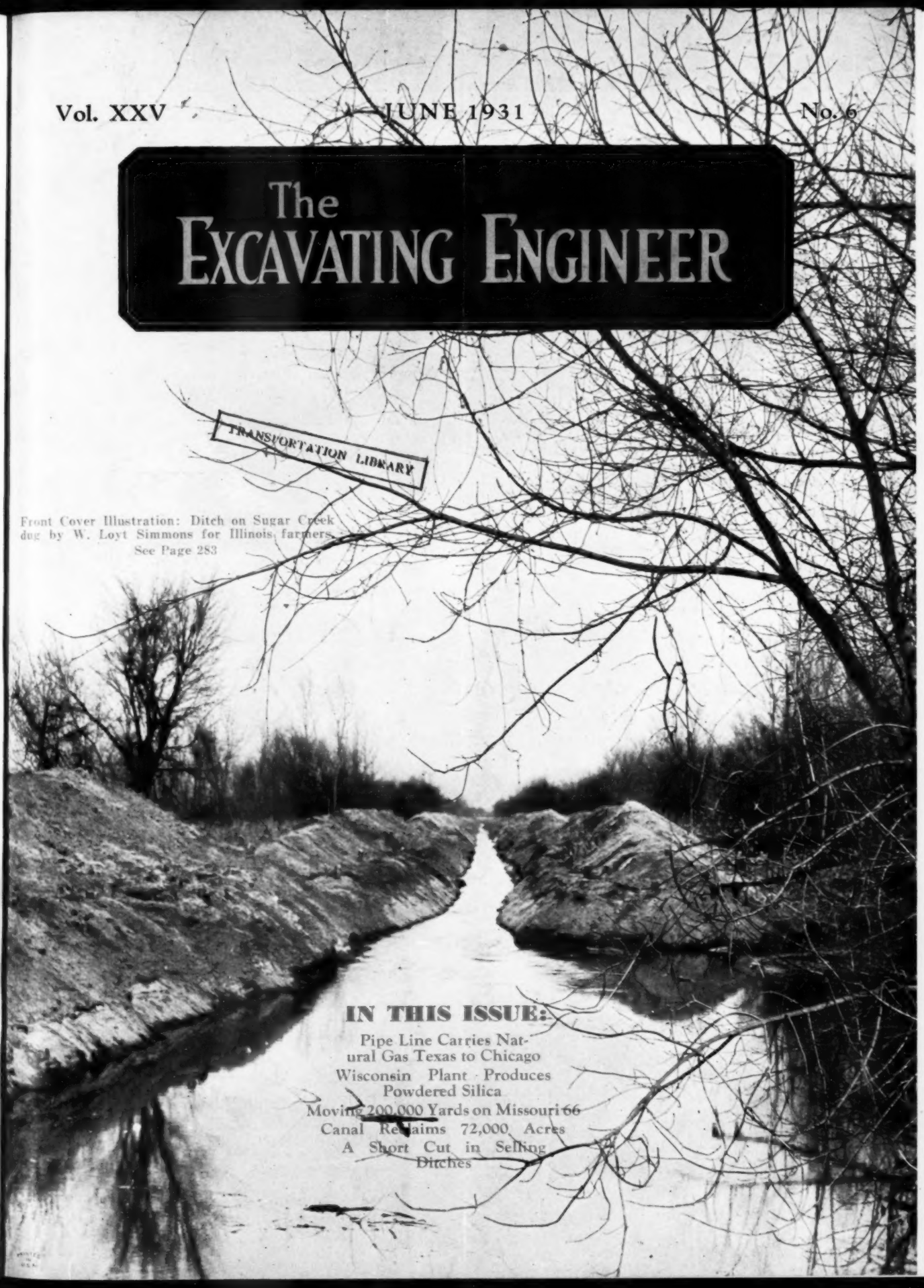


Front Cover Illustration: Ditch on Sugar Creek dug by W. Loyt Simmons for Illinois farmers.
See Page 283

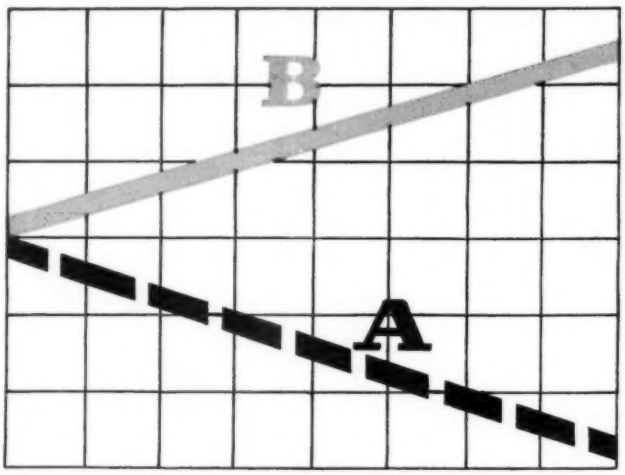
IN THIS ISSUE:

Pipe Line Carries Natural Gas Texas to Chicago
Wisconsin Plant Produces Powdered Silica
Moving 200,000 Yards on Missouri 66
Canal Reclaims 72,000 Acres
A Short Cut in Selling Ditches

1/2-yard
5/8
3/4
7/8
1
1-1/4
1-1/2
1-3/4
2
2-1/4
2-1/2
3
3-1/2
4
4-1/2
5 and up to 16 yards

Shovels
Drag-lines
Clam-shells
Lifting Cranes
Drag-shovels
Magnet Cranes
Tunnel Shovels
Dredges
Drag-line Buckets

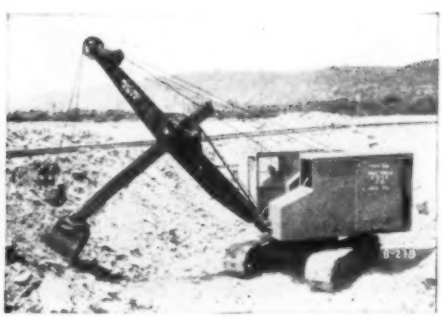
Gaso-line
Diesel
Gas + Air
Electric
Steam
Diesel-Electric



Something for shovel owners to THINK about

A. The declining efficiency and disappearing chance for profits in old shovels which have become obsolete or worn out.

B. The steady upward curve of efficiency Bucyrus-Erie engineers have achieved for their machines.



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A-265

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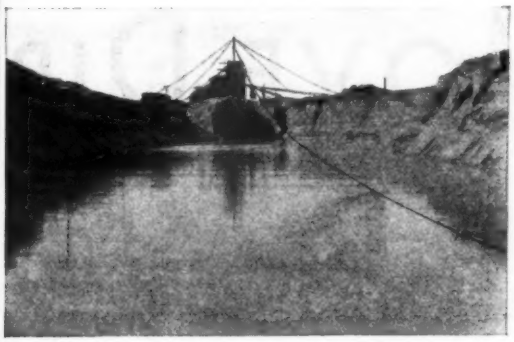
Sauerman Bucket Dumping Its Load of Gravel Into Hopper on Top of Screening Plant

A Low-Cost Excavator with a 1000-ft. Reach

MOST deep excavating work, either in dry ground or under water, where the excavated material has to be conveyed a distance of 200 to 1,000 ft. or more and elevated to a high bin or storage pile, can be accomplished at minimum cost by using a Sauerman Slackline Excavator . . . the one-man, long range digger-conveyor.



Digging Under-Water Gravel

IN the above photograph you see a Sauerman Slackline Excavator that reaches out across a pit 800 feet wide, digs sand and gravel lying 100 feet below water level, and lifts this material to the top of a screening plant at the rate of 120 tons per hour.

A major portion of the total annual tonnage of sand and gravel produced from rivers and under-water pits is handled now by Sauerman machines. Some of the installations are larger than the one pictured above, others are smaller, but all have one characteristic in common, namely, an ability to dig to the bottom of the deposit and to convey the excavated material to the screens at the lowest cost per ton.

For details and illustrations of typical uses of these machines, write for the "Excavating For Profit" booklet.

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About Excavating Projects — By Excavating Men — For Excavating Men — The World Over

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Vol. 25 — JUNE, 1931 — No. 6

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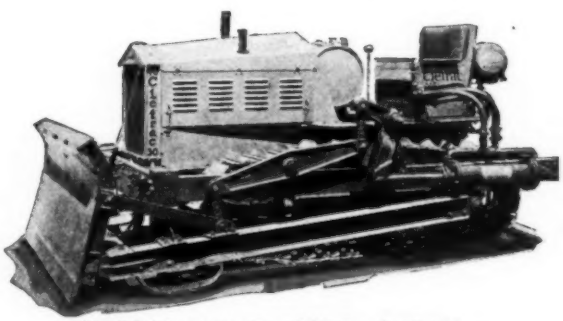
Make your next grading or filling job a faster and cheaper operation by using a Cletrac Crawler.



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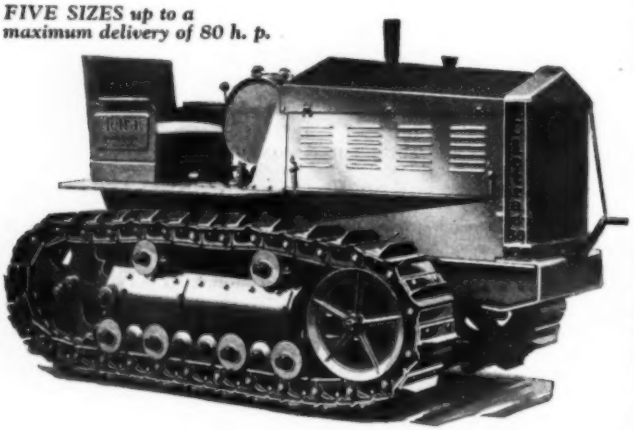

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"How can I REDUCE *production costs?"*

A MESSAGE TO THE MINING, QUARRYING, AND CONSTRUCTION INDUSTRIES . . . *Second of a Series*

BY NECESSITY, every far-sighted executive today should be receptive to any program that will reduce production costs and increase operating efficiency.

ESPECIALLY attractive is a program that will accomplish these objectives immediately without increasing plant investment a single dollar.

SUCH an opportunity may be disclosed to you through an analysis of your blasting methods. Many mines and quarries are reducing blasting costs to a point previously considered impossible, by taking advantage of the remarkable progress that has been made in explosives development and blasting procedure in the last few years.

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(3) Efficient blasting produces material properly broken for economical loading, crushing, or handling. This results in additional savings by eliminating excessive wear and tear on equipment, and by using personnel to best advantage.

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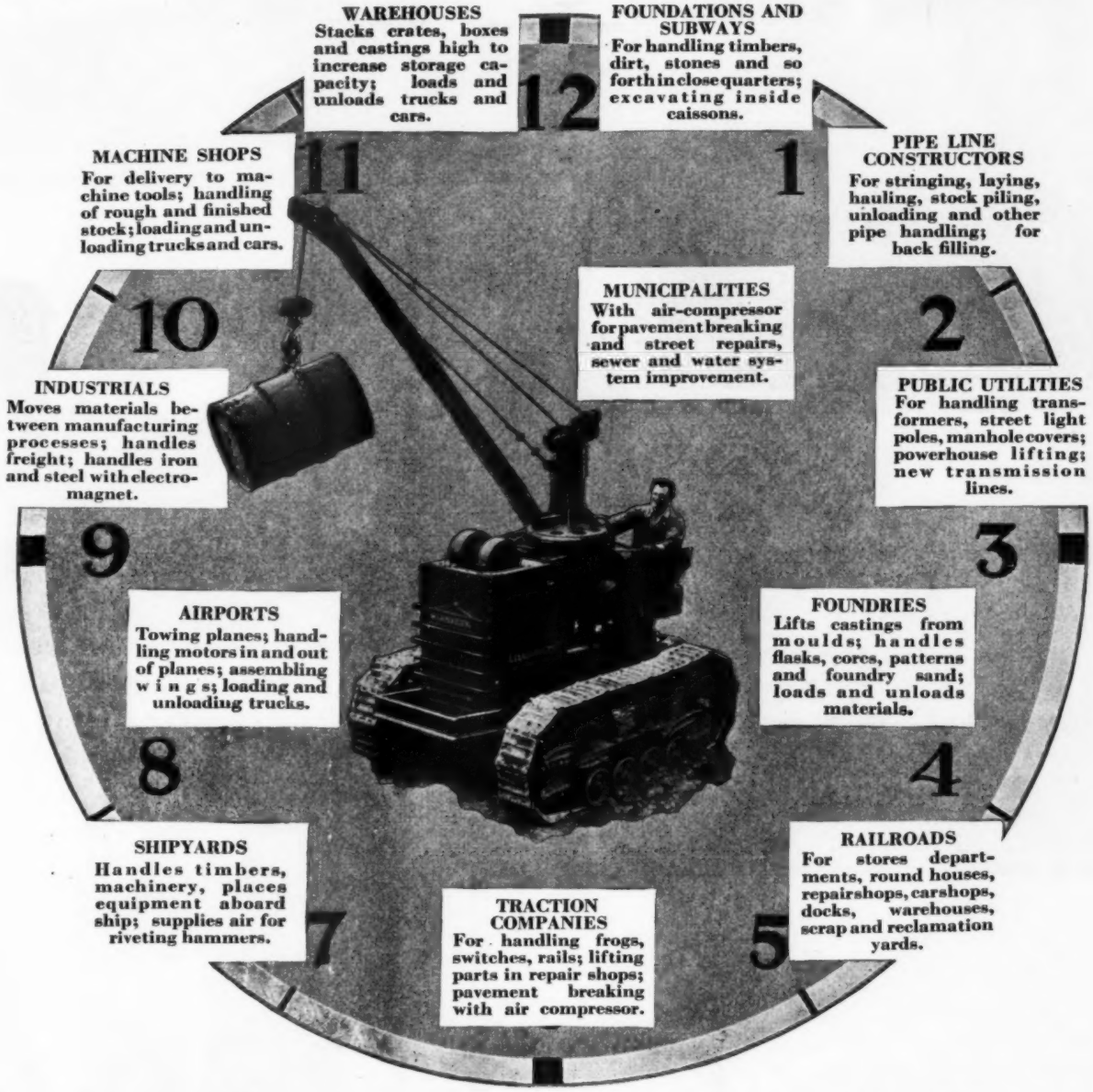

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Handles timbers, machinery, places equipment aboard ship; supplies air for riveting hammers.

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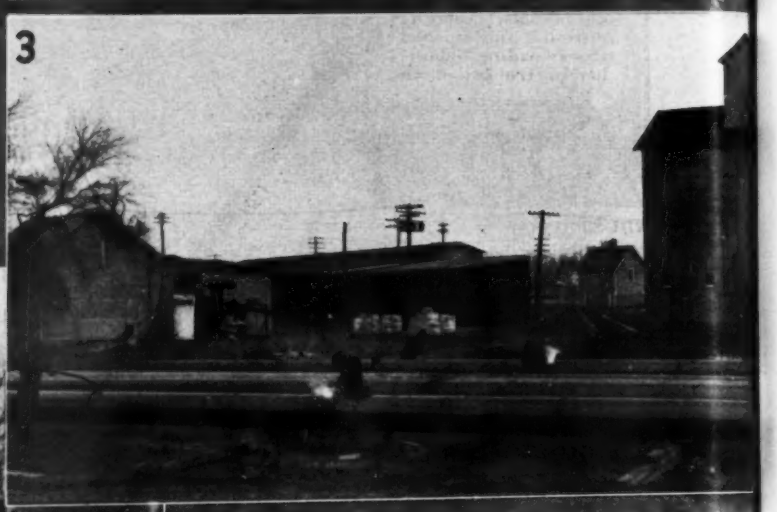
2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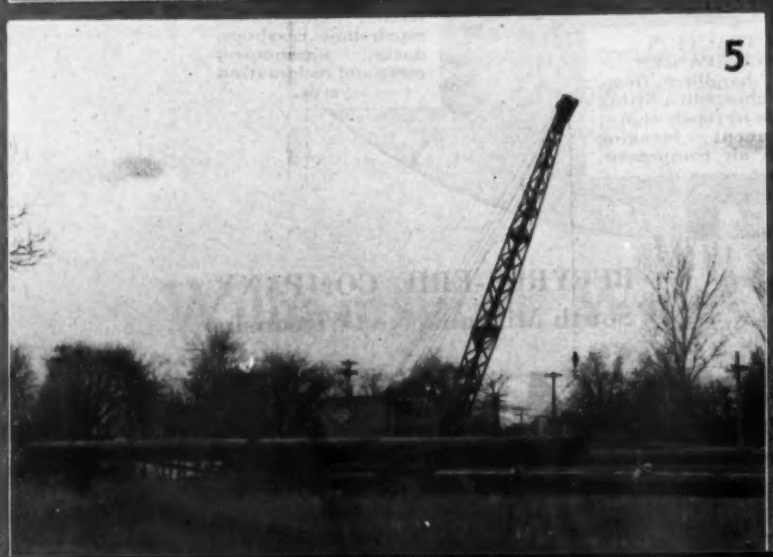
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The EXCAVATING ENGINEER

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Pipe Line carries natural gas Texas to Chicago

These 80-foot lengths of pipe weigh 6400 pounds each and are easily handled by this Bucyrus-Erie 1020 crane with 35-foot boom.

The L. E. Myers Company of Chicago installing fifty miles of 24-inch pipe on line between Joliet and Chicago Heights.

SPREADING out over the country from the oil and natural gas fields a mammoth spider web of pipe lines is growing day by day. More economical transportation of the nation's requirements of natural gas, crude oil, and gasoline will result.

On the natural gas line now under construction by the Will Cook Construction Company of Chicago for the Peoples Gas Light and Coke Company of Chicago, the L. E. Myers Company, well-known public utility contractors, are building a sixteen-mile section between Chicago Heights and Calumet, and thirty-two miles from Joliet to Lyons. This job was started in February and is expected to be completed June 1st. Another section of 25 miles on the same line, started November

ON THE OPPOSITE PAGE

1. In the welding yard the pipes are turned on racks carrying small rollers. As the welder completes the weld a helper with bar and chain turns the pipe as required. 2. Chaining a load on one of the White's with its Spencer trailer. Red flags are used to warn approaching traffic to proceed with caution because of the unusual length of these 80-foot loads. 3. Two lower supports are used under one of the 40-foot lengths with a third support midway of the other 40-foot length. This picture shows two of the four welding crews at work in this yard. 4. Two of the Lincoln-Arc weld units used by the Welding Engineering Company, sub-contractors, in the welding yard. 5. Tongs on a yoke are used on the Bucyrus-Erie 1020 crane for handling the long pipes. 6. Operator Stanley Poff at the levers of the 1020 crane.

In the yard at Plainfield four welders employed by the Welding Engineering Company of Bartlesville, Oklahoma, complete the joining of around 62 pairs of 40-foot lengths of 24-inch pipe per day.

15, 1930, was completed by the same organization before starting the present contract.

The present contract is being handled in two sections both under the supervision of Jim Hamilton, General Superintendent with headquarters at Joliet, Illinois, Thirty-two miles on the north end is supplied from the distribution yard at Plainfield and 18 miles on the south end from the yard at Calumet City.

5000 feet of pipe a day handled at Plainfield yard

The yard at Plainfield is in charge of Foreman R. A. Kines. Here about 5000 feet of pipe a day are unloaded, welded into 80-foot lengths and loaded to trucks. The pipe, coming in 40-foot random lengths from the manufacturer, is unloaded from cars by a Bucyrus-Erie 1020 crane with 35-foot boom. It takes about 20 minutes for this machine to unload a carload of 20 pieces of pipe. From the stock piles it is moved to welding racks by a Caterpillar tractor with a Cardwell side boom winch made by the All Steel Products Company of Wichita, Kansas. Welding is handled by the Welding Engineering Company of Bartlesville, Oklahoma, a sub-contractor. Using four Lincoln Arc Weld units this organization weld pairs of 40-foot lengths into 80-foot lengths at the rate of about 5000 feet per day.

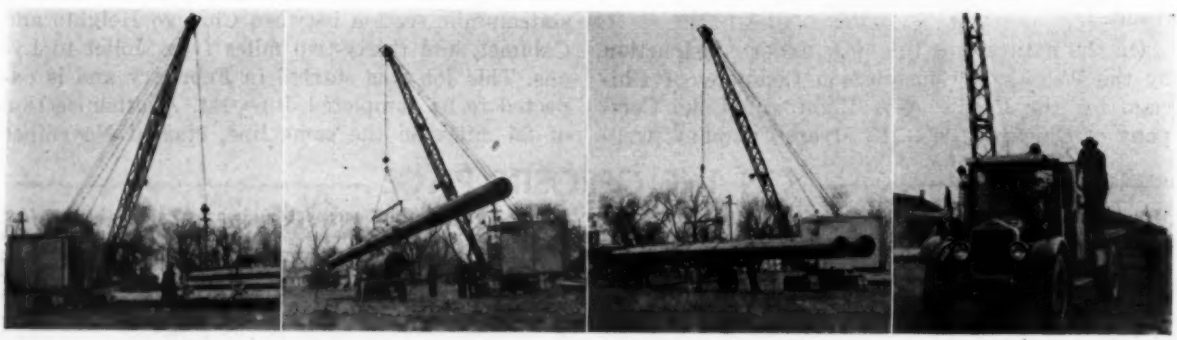
From the welding racks two Caterpillars with their Cardwell side boom winch attachments move the 80-foot lengths of pipe to the loading stock piles. From these piles they are loaded to trucks by the Bucyrus-Erie crane.

Trucks loaded in five minutes

Six White 2½-ton trucks with Spencer trailers are used for hauling and carry two or three of the 80-foot lengths to a load. Each length weighs 6,400 pounds. Operator Stanley Poff on the 1020 crane takes only a few minutes to load a truck and average loading time, including placing trailer and chaining load, is about five minutes.

A double play, Caterpillar-Cardwell to Bucyrus-Erie to White-Spencer.

From the yard the pipe is hauled direct to the right-of-way and unloaded as close as possible to the place where it is to be used. Caterpillar tractors with side boom attachments are used for unloading. The lengths are then placed over the ditch with a 60 tractor with Cardwell side boom.



Five minutes and the White with its Spencer trailer is ready for the road carrying 12,800 pounds of 24-inch welded pipe.

The Bucyrus-Erie 1020 crane doubles at unloading the pipe from the cars in the welding yard and loading the 80-foot lengths of pipe to the trucks.

The trench, which utilizes as far as possible cleared electric power line right-of-ways, is 36 inches wide with minimum depth of 5½ feet. Crossing ridges and small high spots greater depth is necessary but no attempt is made to maintain a level grade for the bottom of the trench except as needed to carry the individual lengths of pipe. In other words the grade goes up hill and down dale, following, in a general way, the ground surface.

Two Buckeye traction ditchers excavate the trench with the help of a P & H crane and two Bay City cranes on McCormick-Deering tractors to clean out the bad spots.

Total of about 7000 feet of pipe laid per day

Laying for the two gangs is handled with four Caterpillar Thirties and two Sixties, all equipped with the Cardwell winches. Each of the main pipe laying gangs averages about 3500 feet a day.

Two Caterpillar Sixties and one Thirty with La Plant Choate bulldozers handle the backfilling.

In the yard at Calumet City which supplies the south end of the job a Northwest crane is used for unloading and loading pipe to 2½-ton White trucks with Spencer trailers. One Caterpillar with side boom winch assists in moving the pipe. Most of the pipe received at this yard is 60 to 75 feet in length, being rolled pipe from the National Tube Company, and no welding is done at this yard at Calumet City.

Additional equipment on the job includes eight International 1½-ton service trucks used for handling supplies, couplings, etc., and three small Chevrolet trucks used by the foremen to keep in close touch with the work and for emergency transportation of supplies.

On the north end, Earl Price is Superintendent of the main laying gang with R. E. Tiller, Superintendent of the clean-up laying gang that handles the crossings and other bad spots which are left behind by the main gang. On the south end, Superintendent Earl Whitaker handles the main gang while Superintendent W. Pruit has charge of the clean-up gang.

A smooth even weld makes two 40-foot A. O. Smith pipes into one 80-foot length.

Left—Thew electric loads to Whitcomb-drawn 2-yard Westerns. Center—Bucyrus-Erie 18-B steamer does the stripping. Right—A view of the modern plant.

Wisconsin Plant Produces Powdered Silica

AT Browntown, Wisconsin, the White Rock Silica Company is meeting with considerable success in their powdered silica plant. The product is used in various industries depending on its fineness. Products from 140 to 200 mesh screens goes to foundries and soap manufacturers, and the finer grades — from 325 to 600 mesh — are used for paints and tooth paste, while the finest grade is used in the manufacture of talcum and face powders.

The silica sand is of unusually high grade, running 99.87% pure. It is mined from a deposit covered by about 8 feet of overburden, and running about 180 feet in depth according to drill holes. The grade of the deposit improves with depth.

At present thirty feet, which is above the grade of the plant, is being mined with a small Thew electric. An 18-B Bucyrus-Erie steamer is being used for stripping. Two Whitcomb locomotives and two-yard Western dumps, 24-inch gauge, are used for hauling.

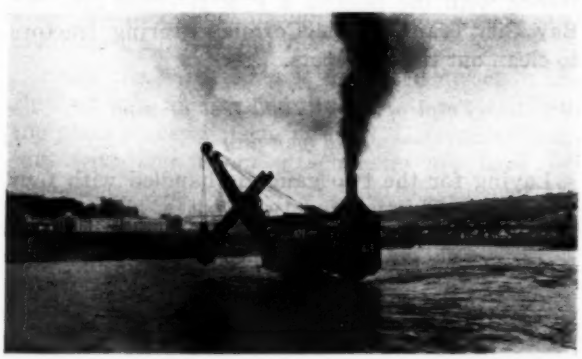
Overburden is drilled with an Ingersoll-Rand wagon drill. Holes are put down to depth of 25 feet, and from 500 to 600 feet are easily put down in a nine-hour shift. Later it is planned to use this Ingersoll-Rand drill on the silica. At present, in the silica, jackhammer drills are used with steel up to 16 feet. Some of the holes are drilled from the top, but better results are obtained in the silica by snake holing.

Between the overburden and the white rock silica is a 16-foot strata of yellowish silica which is now being wasted. A plant for preparing this material for moulding purposes is in preparation, and will have a capacity of twenty cars of moulding sand per day.

G. W. Dunphy is superintendent of operations at Browntown. The plant was designed and its erection supervised by J. J. Gault, engineer for W. J. Newman Company of Chicago. W. J. Newman, J. P. Carroll, A. C. Wehenn and R. Wehenn are the principal stockholders.

Fording River does not Bother Steam Shovel

"JUST ONE more river to cross" and this Bucyrus-Erie 42-B steamer which was recently placed in operation for the Mill Creek Gold Mines Limited at Beauceville, Quebec, Canada, doesn't seem to mind getting her feet wet. The shovel is



Walking across the Chaudiere.

to be used in placer mining operations under the management of N. O. Lawton.

As the machine was moved across the Chaudiere River on Saint Jean Baptiste day, which is a popular French-Canadian holiday, thousands of people lined the banks of the Chaudiere to watch the shovel walk across the river.

Moving 200,000 Yards on Missouri 66

Len Gray, St. Louis Contractor, Has 60,000 Yards of Rock to Move in This Contract on Old Watson Road

After taking off the top layers of dirt and sandstone the Gas+Air gets right down to business in excavating the solid ledge of black rock.

CONTRACTOR Len Gray started in business with teams and scrapers a good many years ago. Four years ago he bought his first shovel, a Bucyrus-Erie Gas+Air. Recently he purchased a second Gas+Air—one of the new 1¼-yard GA-3's. The teams have been replaced by Ford and Chevrolet trucks and Caterpillar tractors which haul big Euclid wagons as well as Russell elevating graders.

Today, thirteen miles southwest of St. Louis, he is grading six miles on Missouri Highway No. 66 consisting of 200,000 cubic yards of excavation —60,000 of it solid rock, and doing a real job of it, too.

Well known and well liked, Mr. Gray has a host of friends. They all call him "Len." Forming part of the organization are Ed Gray, Len's son, and Bill Rogers, Len's son-in-law. They are both fine young chaps with the typical Gray grin and the ability to keep things moving smoothly.

1100-foot bridge carries road over Meramec River

The new section of Highway 66 they are building connects with the finished section of the Highway now completed between Valley Park and St. Louis—the old Watson Road. Work was started around November 1st, last, and is expected to be completed about July 1st, 1931.

There are three miles of the job on each side of the Meramec River and connecting these two stretches is to be one of the longest highway bridges ever built in this part of the country. The total length of 1100 feet is being built by the Wisconsin Bridge Company.

Sandstone dug without blasting by Gas+Air

The rock on the job includes sandstone and a much harder black rock. Bill Irons, operator, heads his GA-3 into the sandstone without blasting and although it often seems as if the shovel were called upon to lift the corner of a ten-acre lot, it breaks up the sandstone and bails it out in huge chunks.

Length of haul, depth of cut and height of fill are constantly varying on this job. The country is hilly and the shovel is moved back and forth from one spot to another as the timing of the job demands. And this brings up an interesting feature of the work, a feature for which the mobility of

Quite evidently the operator doesn't mind the heavy digging judging from the grin. The center view shows the size of some of the rock fragments encountered in the black rock ledge. As shown at the right some of these were too large to be safely loaded to the trucks and were stacked up behind to be cracked with block hole shots later.

the GA-3 makes it well adapted. Ed Gray, who bosses this part of the job, takes off the sandstone —that may run 10 to 15 or even 20 feet deep— and leaves the black rock and other extremely hard material exposed for drilling and blasting. The Gas+Air moves on to the next cut and wades into the sandstone to return to the earlier cut as soon as blasting has been finished. In this way Mr. Gray saves unnecessary drilling and shooting which keeps his job moving steadily.

Constant care and careful lubrication pays dividends in keeping equipment moving

At the present time Mr. Gray serves his shovel with four Ford trucks and one Chevrolet. These trucks are equipped with 1½-yard bodies upon which have been built six-inch side boards making the capacity of the trucks a good two yards. He has found this method of taking the material away from the shovel a very satisfactory one and has had very little trouble with his hauling equipment, partly due, no doubt, to the constant care and thorough lubrication the equipment always gets. Thus, at the present time, these five 2-yard trucks are kept moving by the Gas+Air and there is another Chevrolet truck coming. Bill Irons has a pleasing personality and is the boy who keeps the trucks moving.

This Bucyrus-Erie GA-3 loads to Chevrolet and Ford 2-yard trucks.

One rock cut over 40 feet deep

Perhaps by mentioning sandstone at ten to fifteen feet deep we have given you the impression that the cuts are all easy but this is far from true. There is one rock cut 40 feet deep and a fill over 400 feet long, 47 feet at its highest point.

Mr. Gray uses 40 per cent dynamite on the hard rock, drills his holes seven feet on centers and uses eight 1⅛-inch sticks in a hole 12 feet deep. The sandstone is handled without any blasting but the very hard rock encountered under the sandstone requires a good shaking up and this method of blasting fills the bill very nicely.

And before we drive on back to St. Louis we might look further on down the line where Len Gray's Caterpillar 60 and elevator grader is taking off the soil from the next deep cut. Way across the valley on that next hill you can see the big Caterpillar pulling along the grader that is serving big Euclid crawler wagons, one 7-yard and two fives pulled by other Caterpillars. There is a 500-foot haul down to the fill but the rich black soil keeps moving on this well-planned job with a steadiness that brings up the mental picture of the shovels loading out rock from the same cut in the next week or so and shining new motor cars speeding over smooth concrete — not so many months hence.

Canal Reclaims 72,000 Acres

U. S. Government Spends $11,000,000 for Irrigation and Reservoirs in the State of Washington

Top: The North Branch at Station 1232 before lining with concrete. Note the wide canal bottom, the firm outer crown and general location above surrounding country.

Bottom: Nanum Creek wasteway on the North Branch, one of the wasteways built by Barnhard and Curtiss Company, Minneapolis Contractors.

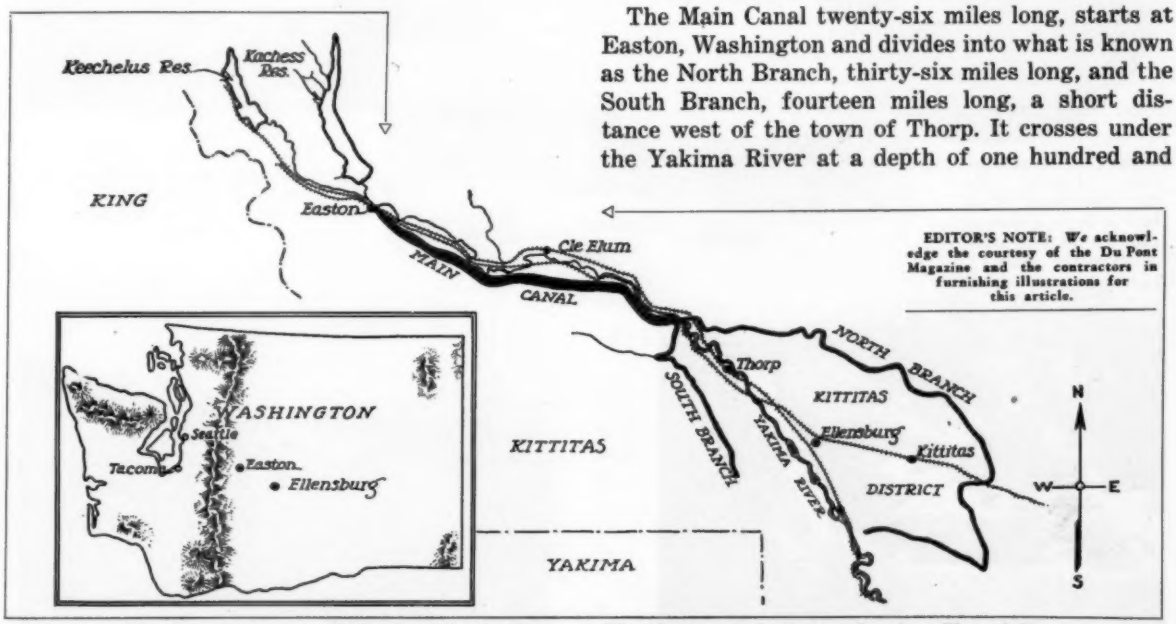
IN THE HEART of the Yakima River Valley located east of the Cascade Mountains and southeast of Seattle, Washington, a reclamation project is nearing completion that will add well over 70,000 acres of newly developed land for farming and cattle raising to this famous orchard country.

The Kittitas High Line Canal, which is being built under the direction of the United States Bureau of Reclamation, receives its name from the county through which the Yakima River flows. The Construction of this canal was approved by the Secretary of the Interior in December of 1925. A Government expenditure of a sum not to exceed $9,000,000 has been set aside for this irrigation system and an additional $2,000,000 will be spent for storage reservoirs.

Five hundred families will be needed to settle on this reclaimed land where fruit, alfalfa, cereals, root crops and potatoes may be raised. Large flocks of sheep and herds of cattle are wintered there and, with the markets nearby, dairying and truck gardening have been very successful. Payment for the system by these land owners is to be at the rate of 5% of the annual gross crop, with no interest charges, and will begin five years after the canal has been completed.

Main and Lateral Canals Total 76 Miles

The Main Canal twenty-six miles long, starts at Easton, Washington and divides into what is known as the North Branch, thirty-six miles long, and the South Branch, fourteen miles long, a short distance west of the town of Thorp. It crosses under the Yakima River at a depth of one hundred and



Showing the course of the canal in the State of Washington and the section it will reclaim

EDITOR'S NOTE: *We* acknowledge the courtesy of the Du Pont Magazine and the contractors in furnishing illustrations for this article.

fifty feet, and from this point the water runs into three hundred and fifty to four hundred miles of lateral canals on both sides of the valley, watering approximately 72,000 acres of good land outlying the towns of Ellensburg, Cle Elum, Thorp and Kittitas.

The toughest kind of digging has been encountered on all of the undercrossing and on most of the canal. The formations are of rock, hard pan and cemented gravel and nearly every foot of the way had to be blasted before the draglines and shovels could go ahead with their work.

Many Prominent Western Contractors Take Part in Excavating

General Construction Company of Seattle built the first nine miles of the Main Canal starting at Easton, and also completed eleven miles of the North Branch. They had on these jobs their Bucyrus-Erie 50-B, a Bucyrus-Erie Class 14 steam dragline and a Marion Model 225 steam dragline. This company also cleared the land that will be inundated by the backing up of the water.

S. H. Newell and Company of Portland, Oregon with their Bucyrus-Erie 50-B and 20-B Diesels constructed the next five miles of the Main Canal.

The third part of the Main Canal was constructed by the Barnard and Curtiss Company of Minneapolis. Their power excavating equipment on the work included a Bucyrus-Erie 20-B, a P&H dragline Model 700, and a 3½ cubic yard Page dragline. They also have nearly completed about 17 miles of the North Branch Canal, including one tunnel, number 4, and three wasteways. The material on this 17 mile stretch consisted mostly of cement gravel and required blasting throughout. A Monighan two-yard dragline was added to their excavating equipment on this North Branch job.

Morrison-Knudsen Company of Boise, Idaho did considerable work on the open canal using their

(Continued on Page 287)

Below: This winter scene on the Main Canal gives some idea of the severe weather conditions confronting the builders.

Left: Where cement gravel was encountered, explosives broke up the material before the shovels could remove it.

Below: The North Branch of the canal above Thorp, after it was lined with with concrete.

Below: The diversion dam at Easton, the starting point of the Main Canal.

Below: Several concrete siphons like the one seen here had to be laid across ravines in the construction work.

Below: Showing the size and formation of the Main Canal. All the material on the banks had to be blasted loose.

A Short Cut in Selling Ditches

No more drowned out crops with this Simmons ditch to speed the high waters on their way.

W. Loyt Simmons, Illinois drainage contractor, keeps his dragline profitably busy by selling his ditches direct to the farmers.

THERE IS an old saying that "there is more than one way to skin a cat".

So, when W. Loyt Simmons of Mason City, Illinois found drainage contracts were hard to get and competition on regular biddings was forcing prices down to where all that was left for the contractor was the exercise, he set out to do a little independent thinking.

"Why bother with all this rigmarole of drainage districts, courts, bonds, and red tape?" Mr. Simmons said to himself. "There are a lot of farmers around this part of the country who want, need and are willing to pay for drainage ditches if getting them wasn't so complicated. Why not sell my ditches direct to the farmers?"

And so Mr. Simmons stepped out and did just that—sold his ditches from farm to farm, direct from producer to consumer, one might say. It made cheaper ditches for the farmer—steady work and a fair profit for Mr. Simmons.

Cleaned up on one contract the Bucyrus-Erie 1-yard dragline with J. M. Simmons at the levers goes hiking down the road to the next one.

65,000 Yards for Farmers on Sugar Creek

Just recently he completed a series of ditches along Sugar Creek about twelve miles east of Mason City and two miles north of Burtonville for a group of farmers in the Sugar Creek district.

The bottom lands along Sugar Creek are the most fertile in that part of the country producing 70 to 90 bushels of corn to the acre in good seasons. Heavy rains, however, could not be carried off by the winding natural bed of Sugar Creek and every other year or so the corn, wheat and oats of these fertile fields would be carried away or ruined by floods. In 1929 a sudden flood came at harvest time and not only carried off most of the newly cut grain but drowned one farmer, who was swept from his horse, and drove six or seven more who were trying to save their crop and live stock into the tree tops for safety.

It wasn't hard to sell these Sugar Creek farmers contracts for widening, straightening and deepening the creek bed through their fields. There was a total of 65,000 cubic yards in the job running about 700 yards to the station.

2,000 Yards per Day with 1-Yard Bucyrus-Erie Dragline

Mr. Simmons put his Bucyrus-Erie 1035 dragline on the job working three shifts per day and averaged two thousand yards a day on the job. Three

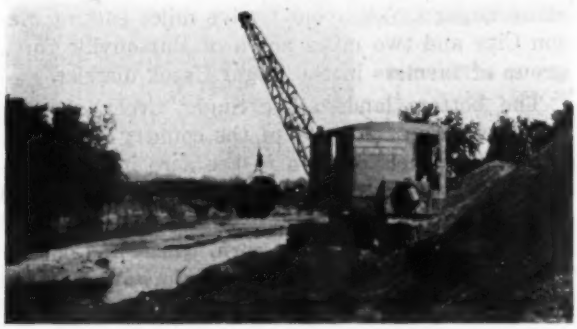
W. Loyt Simmons and his daughter Betty Jane.

eight-hour shifts were worked. As thirty minutes on each shift were definitely set aside for greasing and looking over the machine, and ten minutes for lunch, Mr. Simmons figures actual working time was twenty-two hours. The dragline carries a 40-foot boom ond a 1-yard Page Class-E bucket with Leschen wire rope. Gas consumption for the Waukesha motor ran about 85 gallons per 24 hour day. On Sugar Creek the new channel was about 34 feet wide and cut averaged about 10.8 feet deep.

The material was black sandy loam mixed with clay. To excavate the new channel Mr. Simmons moved his dragline in on the center line of the ditch and spoiled to both sides holding carefully to a uniform slope and grade.

Completing the work he had under contract on Sugar Creek, Mr. Simmons moved his machine to a ditch and levee job for a farmer near Springfield. This was a short job and was soon completed but Mr. Simmons has quite a bit of private work still ahead.

Engineering work for these farmer contracts is handled by Goodell & Millard of Beardstown, Illinois, assisted by Mr. Simmons. J. M. Simmons, a



Opening up a creek channel to prevent flood damage to nearby farms.

brother to Loyt, helps take care of supervision of the excavating operations. S. A. Simmons, Jack Watkins and Paul Beamer are the dragline operators.

Brown arrived home at three a. m. When he reached the front door he found a burglar jimmying it.

"Wait a minute, old man," said Brown. "Let's strike a bargain. I'll open the door if you will go in first."

Little Miss Muffet sat on a tuffet,
Drinking her liquor and gin.
Along came a spider and sat down beside her.
Said she, "It's the D. T.'s agin."

Oakland Contractor Excavates New Street for University

By George C. McNutt

THE University of California at Berkeley in recent years has bought up several blocks of land across the street from the campus for athletic fields which have been crowded off the present campus area by new academic buildings. One of the projects planned for this acquired land is a track stadium, which will probably be the scene of the 1932 track meet held by the Intercollegiate

A scratch cut to grade—yet the Gas + Air kept the trucks moving steadily.

Association of Amateur Athletes of America. To build this stadium it will be necessary to close several streets running between the University business center and the downtown shopping district. Permission to close these streets was secured from the City Council, but only on condition that the University provide a through street.

Contractor J. Catucci, Oakland, California excavated for this new street with his 1½ yard Bucyrus-Erie GA-2. Most of the job called for close skim grading and the shovel cut so accurately that only a little touching up with a scraper will be needed to get the roadway ready for paving. The soil consisted of matted sod containing many roots. This top layer of about twelve inches was skimmed off by the GA-2 and hauled away by truck. The roadway was then excavated to the required depth as indicated by means of guide stakes. The excavated material was used for filling in the lower spots along the new road.

Left Him Stranded

Policeman: "How did the accident happen?"
Motorist: "My wife fell asleep in the back seat."

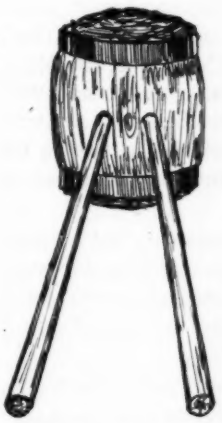
Just His Role

Actor: My kingdom for a horse!
Voice from the Gallery: Will a jackass do?
Actor: Sure, come right down.

FIELD NOTES

Two Man Maul

OFTEN, when making excavations, contractors find it necessary to drive planking ahead of the work, to prevent caving of the walls. These planks, must, sometimes, be of large dimensions, and, especially, when water-soaked, are very heavy; consequently much force is required to drive them into the earth. Since their weight absorbs much of the force of the blow, it is evident that the heavier the maul used, the more work will be accomplished.



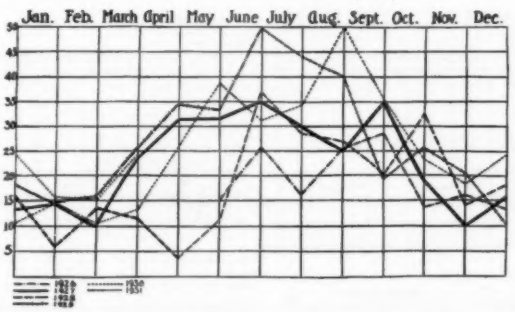
A maul weighing thirty or forty pounds, and equipped with two handles, and operated by two men, will be found more efficient, than two men striking alternately, with separate mauls of half the weight, and the planking will not be so badly damaged from battering.

For the construction of the maul, select the heaviest, suitable, wood obtainable; bring to shape and size, and equip with heavy beetle rings, the weight of which must be considered when shaping the head. Bore two holes for the handles, these should be spaced forty-five to fifty degrees apart, and bored straight toward the center; when thus spaced, both men can work outside of the handles, or, one outside, and the other between them, as may be most convenient.

Besides being used for driving planking as suggested, there are many other jobs in which the contractor will find this tool to be very useful.

—J. M. Kline.

Keep Blasting Caps in a Safe Place



THE ABOVE CHART indicates the rise and fall of blasting cap accidents to children, as reviewed by the Institute of Makers of Explosives since June, 1926. It will be noted that, beginning with March, the accidents increase until they reach large numbers during the summer months. Most of the accidents occur in rural districts where children have more opportunity of playing in fields and along highways. It is the responsibility of adults and workmen to prevent these tragedies by keeping blasting caps out of the reach of children. Careless workmen leave the caps around after blasting operations have been completed, and parents put them on shelves and in barns where children can find them. A blasting cap will blow a hole clean through a steel plate one-sixteenth of an inch thick. One cap will blow a child's hand off. Pitiful stories are told of childish hopes and ambitions being shattered by a few minutes of unguarded play. There are many children going through life with mangled hands, faces, arms and legs as a result of these accidents. Some are even killed by playing with them. Education as to their danger when used as playthings, together with more care on the part of the adult, are the means of solving the great problem of preventing further accidents.

Hollowspun Concrete Piling

THE ELEVEN-STORY General Engineering Laboratories building recently constructed for the Westinghouse Electric and Manufacturing Company at East Pittsburgh is supported on a new type of concrete piling, manufactured by the Hollowspun or centrifugal process. These hollowspun piles are approximately 20 feet long by 9½ inches in diameter at the small or point end, by 14½ inches in diameter at the large or butt end. They were driven with a large steam hammer. The terrific blows caused practically no spawling or brooming at the pile butt. Ten piles were withdrawn for test purposes, and upon examination showed that they had been driven through a stratum of large rocks without apparent damage to the points or to the whole. Subsequent tests of these ten piles for columnar loads developed an average load bearing capacity of 150 tons before failure, each failure being a compression failure and not a columnar.

Hollowspun Concrete Pile driven to position.

The manufacturing process is extremely interesting. A reinforcing cage of longitudinal steel bars wrapped spirally with hooping is made up and placed in steel molds. After the mold is filled with a specially prepared concrete mix, it is spun in a horizontal position for approximately fifteen minutes at varying rates of speed. The spinning compacts the concrete into a dense mass and forms a hollow core in the center of the pile. In street-lighting columns this hollow core is used for wiring, and in piles for jetting in place.

These piles differ from the usual concrete piles in that the concrete attains an average crushing strength in 28 days of 5,000 pounds per square inch, and will safely withstand the usual rough handling and the impacts of large hammers.

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The Business Situation

LITTLE more can be said of business conditions at the present time than that movement seems to be side ways. There is little tangible evidence of improvement and practically no real evidence of further decline.

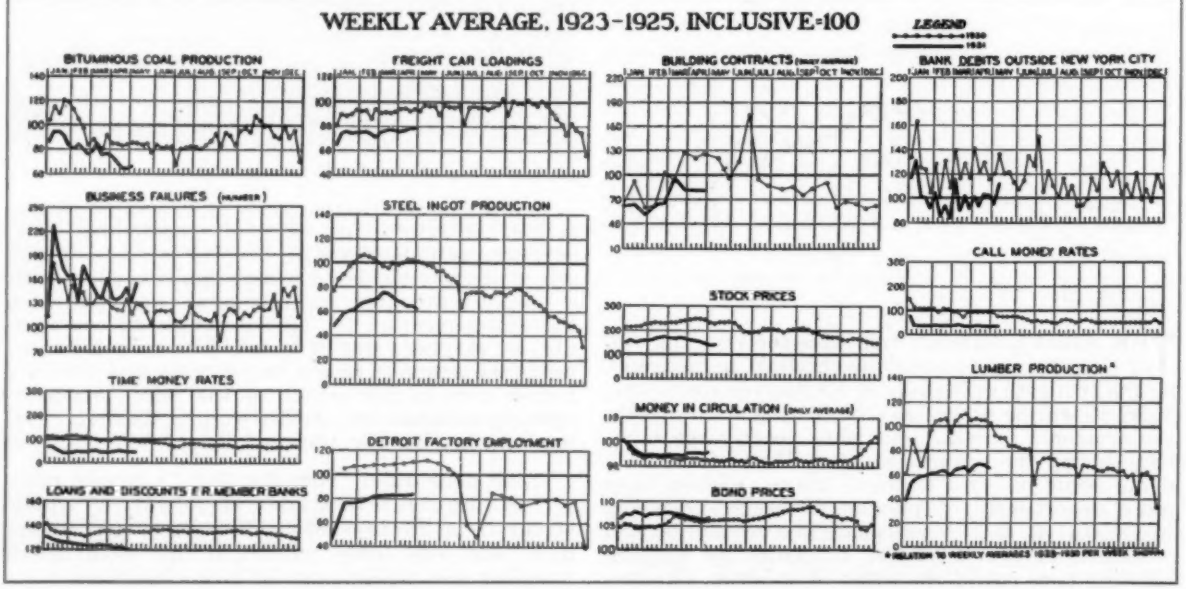
A bulletin on Canadian business conditions issued by the Royal Bank of Canada speaks favorably of business conditions for our neighbors to the North. "General conditions in the manufacturing industry are still below normal, but the volume of business has shown substantial improvement during recent months. Textile mills have greatly expanded their operations, new factories have been opened and extensions made to existing plants. In some instances, mills have been working on overtime schedules. Production is generally more satisfactory in the steel trades. The automobile industry has increased its output in anticipation of spring orders."

In the United States one of the most serious problems seems to be that of getting agriculture into step with other industries. Fundamentally conditions in the manufacturing industries are sound. There are ample funds available and interest rates are low. Inventories have been cut to a point where improvement will be quickly felt by the manufacturer. For example, stocks of automobiles carried by dealers are much smaller than a year ago; stocks of Portland Cement at the Mills are 3.7 per cent less than a year ago. In addition to small inventories the decreased business activity of the past 20 months has centered attention on economy and has put many an industry on a better fundamental basis.

The Spring seasonal improvement is not enough to warrant a statement that recovery is under way, but many of the necessary readjustments have been made and others are in the process of being made.

The price declines on the New York Stock Exchange during the middle of May are undoubtedly more the result of bear activity than the thoughtful discounting of the country's future. At the peak of the bull market in 1929 the stock market was carried upwards again and again after many factors indicated the approach of a recession. We

WEEKLY BUSINESS INDICATORS



must now expect that stock market prices will have short periods of recession even after industry has definitely begun the steady rise that is to be expected.

A few bright spots on the April building map are pointed out by F. W. Dodge Corporation in connection with the announcement of a general total of new construction contracts for the month which is below that of April 1930. Three of the thirteen Dodge territories comprising the 37 states east of the Rockies showed gains in April construction totals over April 1930.

Of the month's $336,925,200 total for all types of new construction, the Upstate New York territory registered a gain with its $22,358,700 total; Central Northwest went ahead with $14,048,800; and the New Orleans district carried a gain over last year of $1,414,900 in its $7,791,900 total.

The April record of contracts awarded divided its total among the three major construction classes as follows: $95,896,400 in residential building; $108,035,600 in non-residential; and $132,993,200 in public works and utilities.

Residential building showed a go-ahead in the Metropolitan New York and Central Northwest districts. The Metropolitan New York total in this class was $34,873,900 as compared with $26,550,700 in April last year. The Central Northwest gain was slight with $2,061,500 in the month just ended as compared with $2,034,900 last year. Cumulative gains for the first four months of 1931 were shown in this class in these two territories.

Both Upstate New York and New Orleans territories produced larger totals in non-residential work and in engineering projects than in April 1930. For non-residential building the New Orleans district was alone of the thirteen to show a gain over 1930 for the first four months of the year.

Gains in civil engineering for the first four months of 1931 are reported by the New England, Up-state New York, Central Northwest, Texas and New Orleans districts.

A gain over March of two percent in residential awards on a floor space basis contributes an optimistic note, although this gain is somewhat under the usual seasonal four per cent.

England and France Appropriate Extra Funds to Speed Road Work

Striking a double blow at unemployment and inadequate roads, England's Ministry of Transport has announced that $8,112,456 has been set aside for road and bridge work to be started at once. These Road Fund grants are a part of the Government program of economic work for the stimulation of employment. The greater part of the large expenditures will be made upon through roads which are subject to greater punishment by heavy trucks running at night, particularly in the midlands.

The French Chamber of Deputies voted a measure providing for 100 million additional francs (about $4,000,000) to be spent on improving French national highways during the remainder of the fiscal year which ended March 31, 1931. This sum is in addition to the amount available for highways in the regular budget, and is considered as a part of the funds which will be devoted to road work in the five year plan for improvement of the national economic equipment of France.

Canal Reclaims 72,000 Acres

(Continued from Page 282)

two Bucyrus-Erie 30-B Diesels and one P&H Model 700 to build fourteen miles of the open canal, besides several siphons and one tunnel.

A section of the North Branch trimmed and ready for lining.

The Utah Construction Company, with Rumsey and Jordan's one-yard Gas+Air machine constructed four concrete siphons on the stretch of the North Branch.

J. A. Terteling and Sons of Moscow, Idaho handled a section on the North Branch Canal, using their Northwest gas machine with a 1¼-cubic-yard bucket and a P&H Model 700 Diesel dragline.

Charles and George K. Thompson of Los Angeles did the work on the undercrossing while E. A. Webster and Company of Spokane completed nine siphons and two wasteways using their Model 600 P&H machine for the excavating. Rumsey and Jordan, another Seattle firm, dug six tunnels—two on the Main Canal and four tunnels on the North Branch. The diversion dam was built by the C. F. Graff Construction Company of Seattle.

Water for the High Line Canal comes from the Yakima River and is stored in the Keechelus and Kachess reservoirs, both of which have been in operation for several years. It will be available in the branches as soon as construction is finished, which will probably be in the spring of 1931.

"Where'd you get that black eye?"

"You remember that pretty little woman we thought was a widow? Well, she isn't."

EQUIPMENT YOU OUGHT TO KNOW ABOUT

Another New Bucyrus-Erie Introduced

THE NEW 37-B, a 1¼ to 1½ yard shovel-dragline-crane-clamshell, is recently announced by *Bucyrus-Erie*. With a choice of Diesel, gasoline, or electric power; rope or chain crowd on the shovel; regular or special extra long and wide mountings for soft ground work on the dragline, the 37-B fits well the various requirements of the field. Simplest possible convertibility saves time and money in changing over for varied types of work.

With the world's oldest and largest manufacturers of excavating equipment behind it owners may be assured of always being able to obtain service and repair parts throughout the long lifetime of the machine. Bucyrus-Erie steels and unit steel construction, ball bearings on all continuously running shafts, large over-size clutches, gears enclosed and running in oil, box girder boom, single-shaft-drive caterpillar mounting, all contribute to the extremely low maintenance costs for this machine and increase its years of serviceability.

A few other features of interest to our readers are: hoist clutches power set—all operating levers toggle in; smooth operating, oversize brakes with cooling fins; steered from operator's stand with cab in any position; double-operating chocking

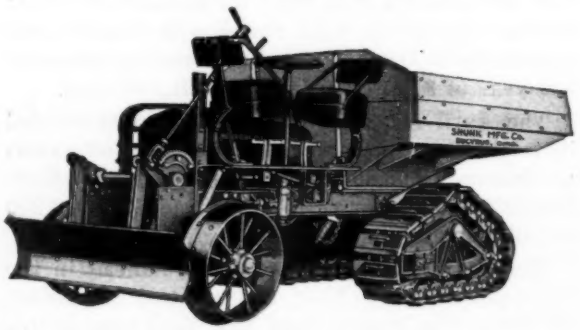
brakes on caterpillar mountings—controlled from operators seat; swing brake for operating on grades; three side vision for operator—steel cab; inserted tooth dipper; only two bearings to a shaft—no binding of bearings; power dipper trip; self starter for engines; power boom hoist—self locking.

Write the manufacturer at South Milwaukee, Wisconsin, mentioning this magazine, for full information regarding the 37-B.

New Aluminum Straight Edge

THE *Cleveland Formgrader Company, Cleveland, Ohio*, are putting on the market a new Aluminum Straight Edge ten feet in length comprised of a box section with flat bottom for checking the pavement surface together with a double thick web and hemmed top for strength and stiffness. It is claimed that this straight edge, weighing only four pounds, is stronger and stiffer than wood and has greater ease of handling. For further information write the above manufacturer.

New Tractor Dump



THE "Camel," new automatic gravity tractor dump, is manufactured by the *Shunk Manufacturing Company of Bucyrus, Ohio*, and its rugged unit moves easily in limited space over rough ground or soft spots or where you will with a capacity of four to five yards. It combines in one heavy duty unit features of the truck, tractor, trailer and bulldozer, and is especially adapted for use in all earth moving operations such as road construction, dams, levees, grading and so forth. The nose of the Camel may be converted into a bulldozer for grading, leveling and backfilling. The machine is gear driven. It has an auxiliary axle which carries the full load of the machine and no strain is placed on the driving axle. A hydraulic governor checks the gravity return movement of the body, thus removing any jar to the chassis. Wheel equipment is interchangeable and crawler steel wheels or pneumatic tire wheels may be mounted in the field with surprising ease and speed. McCormick-Deering 10-20 tractor is used as the power unit for this machine. Easy steering, flexibility of front axle, low sides for operating under elevating graders and a clean dumping body are among the outstanding features of this product of an organization which has been in continuous operation for over 75 years. For complete information regarding the Camel write to the Shunk Manufacturing Company, Bucyrus, Ohio, mentioning this publication.

Bullscoop

AN INTERESTING new tool is the Bullscoop manufactured by *LaPlant-Choate Manufacturing Company, of Cedar Rapids, Iowa*. This tool derives its name from the fact that it combines the work ordinarily done by a scoop and a bulldozer. As the rear of the tractor is attached a scoop shaped

(Continued on Page 308)

DEMAND

These Improvements in Your Dirt-Hauling Equipment

7-YARD WAGON

LOW LOADING HEIGHT: 61½" for loading with elevating graders. Specially designed for road work.

PROPERLY PROPORTIONED BODY: Straight ends, little side flare, wide and long door openings. Unloads quickly.

HIGH CLEARANCE: Pulls on and off the dump quickly and easily.

IMPROVED HITCH: Heavy tubular tongue attached so as not to pull off. Box shaped steel headers front and rear provide additional frame strength. Drawbar spring enclosed within tongue and lubricated.

SIMPLIFIED CONTROL: Only one lever for dropping and winding up doors. Easily operated.

CRAWLER WHEELS

LIGHT DRAFT: Saves fuel and reduces wear and tear on wagons and tractors.

LONG LIFE: Improved design and heat-treatment of wearing parts accounts for their longer life.

ECONOMICAL TO OPERATE: Wearing parts readily renewable at low cost. The only crawler wheels in which shoe bushings, pins, and tension members can be entirely renewed.

CLEAN RUNNING: Operate where other wheels pack and ball up.

TIMKEN BEARINGS ADJUSTABLE: All bearings immediately adjustable without dismantling or even disconnecting track. This means longer bearing life.

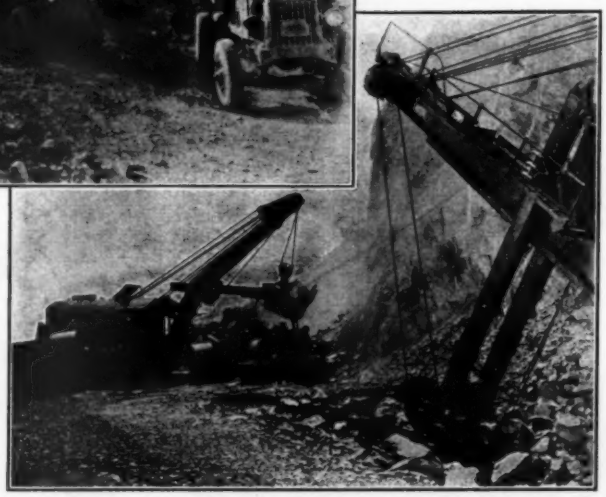
TRACKSON COMPANY

TRACKSON CRAWLER WAGONS

1330 SO. FIRST ST. MILWAUKEE, WIS.

For your convenience in writing to Trackson Company, you will find a card bound in this issue.

At Left: One of the shovels operated by the Lewis Construction Co. on their contract for building a railroad from Boulder City to site of the Hoover Dam.



At Right: Work of R. G. LeTourneau, Inc., who are building a highway over the mountains to the dam site. Note the tough digging.

Preliminary Work on the Hoover Dam is Being Rushed — — — —

—and "HERCULES" (Red-Strand) Wire Rope is on the job, being used by both of the contractors whose work is illustrated above.

"HERCULES" (Red-Strand) Wire Rope is in great demand on rush work because of its exceptional strength and endurance. Its longer life makes changes less frequent.

And why does it have longer life? Because (1) it is made of acid open-hearth steel wire; (2) every wire used is first rigidly tested by us to make sure it meets our exacting requirements; (3) our manufacturing methods and equipment insure even tension on both the wires and the strands; (4) it is made in both Round Strand and Patent Flattened Strand constructions in order to meet all working conditions.

Made Only by **A. Leschen & Sons Rope Co.** Established 1857

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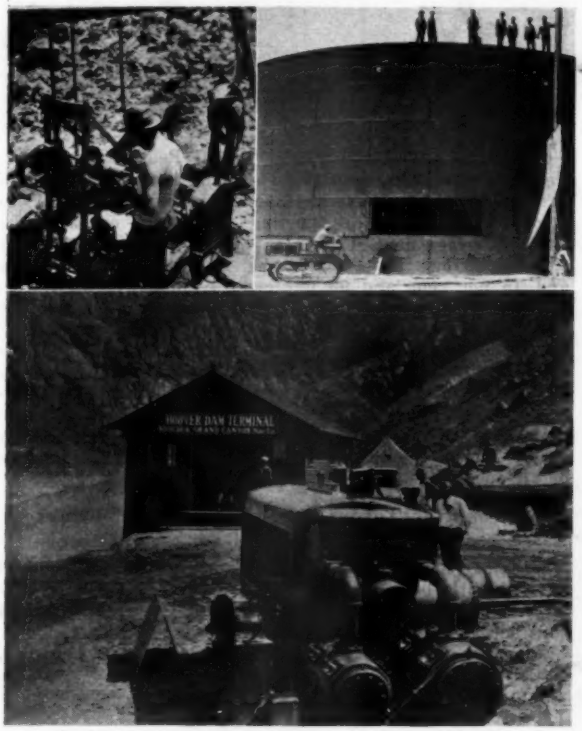
For your convenience in writing to A. Leschen & Sons Rope Co., you will find a card bound in this issue.

SHOTS FROM THE FIRING LINE

Happenings at Hoover Dam

FRANK T. CROWE General Manager in charge of construction for Six Companies, Inc., has established a branch office at Las Vegas and also a field office at Boulder City. Thirty houses and a mess hall have been erected in the industrial zone section of Boulder City and will be used as temporary quarters for 350 workmen. This force is concentrating its efforts on the drilling, blasting and grading of the double track railroad down the Hemenway Wash and along the wall in the canyon connecting the end of the line being built by Lewis Construction Company with the dam site. Two Bucyrus-Erie shovels are busy on this grade which will provide a supply line for materials and equipment and an outlet for excavating material.

Between the dam site and the upper end of the diversion tunnels a large natural cave is located and here the Six Companies have erected their steel sharpening station. This spot provides a cool place for this hot work.



Above left: High up on the rim of the canyon on the Arizona side the government engineers are diamond drilling for the Arizona spillway formation tests. Above right: Completing the 2,000,000 gallons water storage tank at Boulder City which will supply water for culinary purposes. Lacy Manufacturing Company of Los Angeles use a Caterpillar Twenty to hoist the steel plates into place. Below: Ingersoll Rand 500 cubic foot portable compressor being moved in for work on Hoover Dam. Portable units will be used until the 25,000 cubic-feet-per-minute stationary compressor plant can be installed.

Grading Six Companies' double track railroad in the canyon.

The Sierra Nevada substation is being rapidly pushed through to completion and power is expected to be shot in over the wires by the first of June.

Close to the western boundary of Boulder City Six Companies are building a large machine shop to take care of the job requirements.

The "Big Six" are also at work constructing a highway from the main Boulder City to Hoover Dam highway near Tunnel Ridge along the water line to river level at the lower tunnel portals.

A large surplus of labor continues to flock to Las Vegas and Six Companies, Inc., in acknowledging applications for work on the project warn job seekers: "In view of the many hundreds of men now seeking employment we strongly advise against anyone coming on the chance of obtaining work."

Work Started on New New York Freight Depot

THE FIRST dipper of earth in the construction of the first 16 million dollar unit of the New Inland Freight Terminal being built by the Port of New York Authority was dumped by Governor Franklin D. Roosevelt on April 30th. Presiding at the ground breaking was John B. Galvin,

Chairman, The Port of New York Authority. Speakers included Franklin D. Roosevelt, Governor of the State of New York; James J. Walker, Mayor of the City of New York; Joseph G. Wolber, President of State Senate of New Jersey; Alfred E. Smith, former Governor of New York; Howard S. Cullman, Chairman of the Committee on Freight Terminals. In the illustrations presented above may be seen the rope from the speakers stand connected to the dipper trip of Goodwin Construction Company's Bucyrus-Erie B-2 which dumped the first bucket full of earth into the waiting Mack truck owned by the U. S. Trucking Corporation.

Excavating operations consist of a 20-foot hole covering the entire block between 15th and 16th streets and 8th and 9th Avenues. 28 old brick buildings have been demolished to make room for the new 15-story Union Freight Terminal. The new building, largest in New York with the respect to its total floor space of three million feet will reduce the cost of picking up less-than-carload freight delivery of the twelve railroads which serve New York and in making separate shipments to connecting railroads with a resulting saving in truck congestion on the streets. As explained by Governor Roosevelt, "It will be like a postoffice for freight". It is expected that the new building will be completed within a year and during that period will give employment to approximately 1,000 men.

Another large project which Port of New York Authority has underway at the present time include the New Hudson River Bridge which will be opened within the next year. It also expects to break ground within a year for the new 39th street tunnel to New Jersey.

Shovel operator David P. Meehan, of local number 125 had the honor of operating the Goodwin B-2 at the ground breaking ceremony and is shown in the lower picture.

New Jersey Plans 50 Elevated Highway Intersections to Accommodate New York Traffic

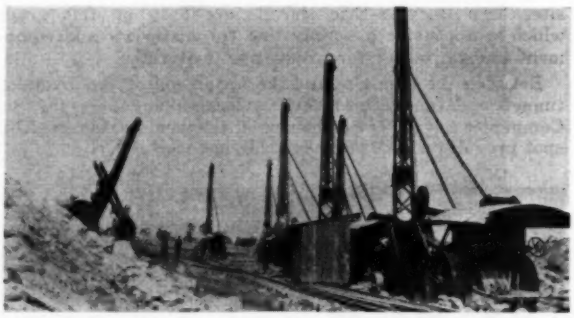
TO ACCOMMODATE the floods of traffic to and from New York increased by the mammoth bridge across the Hudson built by the Port of New York Authority, New Jersey State Highway Department under the direction of J. L. Bauer, state highway engineer, plans to build 50 elevated highway intersections to take care of the traffic over the busy intersections in the near and not so near vicinity of the new Hudson Bridge. These will permit motorists on each highway to continue on their way without altering their speed or to pass from one road to another without making a left-hand turn or stopping. The largest of these proposed intersections is the broad traffic distributing plaza on the New Jersey side of the bridge. Here three major and a number of minor elevated intersections will sort traffic out for the various routes.

Most of the elevated intersections are along the east and west routes 4 and 6. These routes are to be equipped also with five traffic circles which will also permit traffic to flow without stops and left-hand turns.

Foreign
Colombia

Operator Harry Truslove sends us the above picture from Colombia, South America. It shows Mr. Truslove and a Bucyrus-Erie Gas + Air which he has been operating for one of the oil companies there. The picture was taken a little over a year ago at the time Mr. Truslove and the Gas + Air were working on the grading of a football field for use by the natives during the 1930 Christmas holidays. The job was a rush order and the Gas + Air was moved in two miles to the site of the proposed football field in two and one-half hours. Making three cuts in heavy clay formation and hauling with two Ford and two White trucks, Mr. Truslove and the Gas + Air made a total of 1015 truck loads in eight hours thereby breaking all records for shovel performance in that locality. Mr. Truslove comments, "Apart from delays arising from waiting periods on the trucks the work was continuous and the machine never gave a moments trouble." Considering that only native helpers were available with native drivers on the trucks and taking into consideration the tropical climate with the temperature at the time reading somewhere in the vicinity of 120 degrees Farenheit, the record of more than two loads per minute is indeed an accomplishment of which Mr. Truslove may be justly proud.

Canada
Quebec



In the box cut of the tail-race on the Beauharnois Canal, the **Beauharnois Construction Company** has plenty of rock to contend with. Above are shown six of the eight Armstrong drills which are putting down hole on the rock work. Average depth of hole is 45 feet, the material being silica sandstone. Holes are spaced 12 feet apart both ways and 75 per cent and 90 per cent dynamite is used with Cordeau-Bickford detonating fuse. Recently 170,000 cubic yards were brought down in a single shot using 155,417 pounds of dynamite. Seven weeks were required to drill the 429 holes six inches in diameter totaling approximately 20,000 feet. It took three days to place the charges. Drilling and shooting was under supervision of General Foreman A. A. Mac Sween and Superintendent of Construction D. F. Noyes. Vice-President F. H. Cothran is in charge of all operations.

Toronto and Vicinity

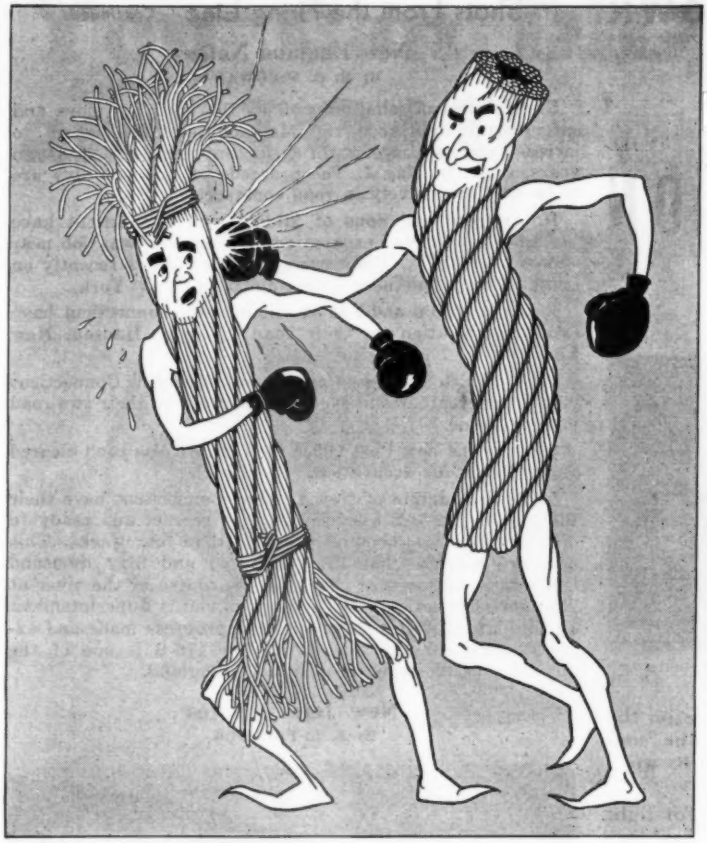
By R. J. STAPLES

Highway construction contracts amounting to $377,000.00 have recently been let by the Department of Public Works of the Province of New Brunswick to several well known contractors in that district.

Amongst them are **Currier & Seymour** of Fredericton, N. B. who are operating two Bucyrus-Erie B-2 steamers and **Armstrong Brothers** of Perth, N. B. who are using a Type 1030 Bucyrus-Erie Gasoline outfit.

The Northern Construction Company & J. W. Stewart are keeping their two P. & H. Diesel Shovels busy on the Canadian National Railways Terminal development work in Montreal. Blasted rock is being handled by these two outfits into Mack Trucks, while a Northwest Gasoline shovel is being used for earth excavation.

Dufresne Construction Company, Limited are using a Bucyrus-Erie GA-3 Shovel with additional crane and drag shovel equipment on their Wellington Street Subway contract in this city. McKiernan-Terry Hammers are being used for the pile driving work on this job.



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BUT BET YOUR MONEY ON LAY-SET! . . . . .

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You will find that Lay-Set will increase your wire rope service by 30% to 300%, depending upon the nature of the service and the character of the equipment.

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Let us send you complete information about Lay-Set Preformed Wire Rope. Mail the coupon today.

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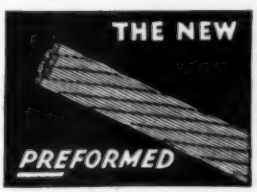

It is not necessary to seize Lay-Set Preformed Wire Rope. Strands and wires will not straighten out and fly apart. They lie in place normally—there is no internal stress.

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HAZARD WIRE ROPE COMPANY
Wilkes-Barre, Pennsylvania

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Kohler Light makes it possible to work with night shifts

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Kohler Electric Plants furnish electricity for light and other uses around excavating, dredging, building and other outdoor engineering jobs. Sturdy, self-contained, compact and easily transported—these units furnish electric current and light for night work whenever you want it. No storage batteries are necessary. Current comes direct from the generator. Gasoline serves as fuel.

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Shots From the Firing Line — *Continued*

New England Notes

By B. C. McCOWAN

Unemployment relief as well as the need for more and safer roads influenced the Massachusetts legislature to increase the gasoline tax an extra cent for a period of two years, effective May 1. The proceeds of the new levy are to be used exclusively in road construction.

D. Arrigoni and Sons of Middletown, Connecticut have just about completed excavation on their Parkway job near Croton, New York. They were also low bidders recently on another large job near Cairo Junction, New York.

Frank Arrigoni and Son of Middletown, Connecticut have started excavation on their road job near Hudson, New York.

H. T. Smith Express Company of Meriden, Connecticut report fine weather and excellent progress on their two road jobs in Maine.

Site for the new Post Office in Hartford has been cleared and is ready for excavation.

L. E. McLaughlin of New London, Connecticut have their Bucyrus-Erie 175-B electric dragline erected and ready to dig. Erection was completed in less than four weeks. This 3½-yard machine has three hundred and fifty thousand cubic yards to move in changing the course of the river at Ansonia, Connecticut. Mr. Anderson who is Superintendent on this job, is well pleased with the progress made and expects to be slinging dirt soon. The 175-B is one of the largest draglines ever used in New England.

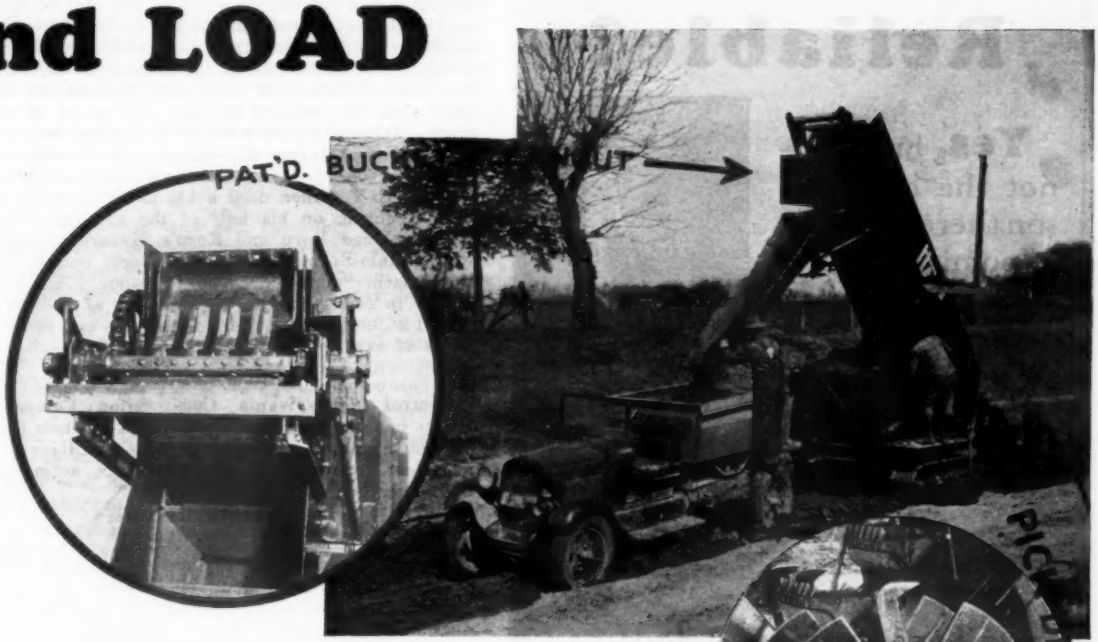
New Jersey Notes

By A. L. PADDOCK

The above views, furnished through the courtesy of **Thomas LaBar, Senior Civil Engineer** for the State Highway Department at Washington, N. J., show some of the work on section 9 of Route 30, Musconetong River to Oxford in Warren County. The lower view shows Mr. LaBar (third from the left) and his inspectors. This job, 6.963 miles in length, was let in April, 1930 to **Korp and ... of Phillipsburg.** It includes six small bridges, 297,357 cubic ...rds of excavation, 25,600 cubic yards of rock, 94,802 cubic yards

For your convenience in writing to the Kohler Co., you will find a card bound in this issue.

You Can DIG and LOAD



even in sticky CLAY

The new Bucket Cleanout on a Haiss Excavator automatically clears any adhering material—clay, gumbo, etc.—and keeps the machine digging at full capacity. You can handle your shallow grading faster and at lower cost with this machine. Make it the means of bidding in your 1931 contracts at a better profit. Remember! Up to 2 yds. a minute. From a skimming pass to a 4 ft. cut. No turntable swing.

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I'll be interested in your booklet, "It Digs." Send me a copy
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Also HAISS BELT CONVEYORS, CLAMSHELL BUCKETS

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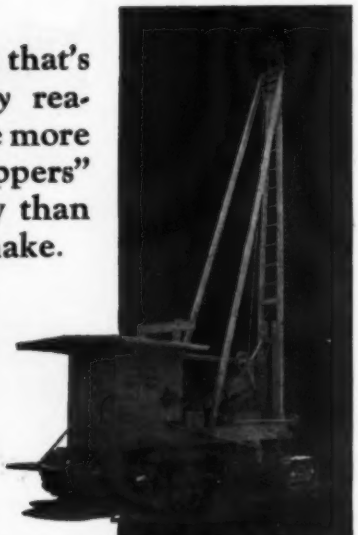

Made in steel or wood frame or all steel for wire or Manila line.

Write for full information.

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(Established 1842)
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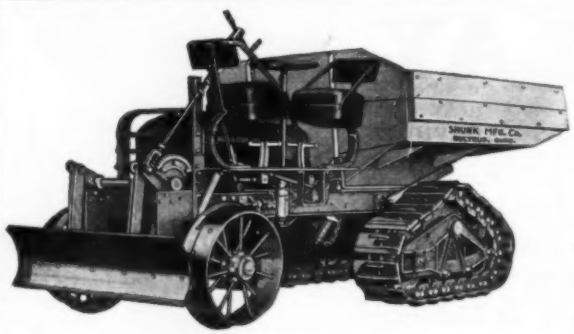

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CAMEL
GRAVITY
TRACTOR DUMP WAGON

Combines in one heavy duty unit features of Truck, Tractor, Trailer and Bulldozer.

Capacity, 4 Yards; With Sideboards, 5 Yards

Crawlers, Steel Wheels and Pneumatic Tires—all interchangeable on same axle.

Designed and built by

SHUNK MANUFACTURING COMPANY
Established 1854
105 Auto Ave. Bucyrus, Ohio.

Shots From the Firing Line — *Continued*

of 9" concrete pavement, with drainage work and incidentals. Work was started on April 28th, 1930 and with favorable weather the job was 71.5 per cent complete by the time winter set in including 45,000 square yards of improved shoulders built of slag from the old Empire Iron mines at Oxford. The 30-foot fill at the bottom of Oxford Mountain was also completed for settlement through the winter. Not more than two feet of fill was left to go on any of the grade. Subcontractors **Richard & Gaston, Inc.** of Sommerville had two Marion 37 steamers and a General on their end of the job which included the bridges and half the grading and **E. T. Gillen** used a 1¼-yard Conquerer and a ¾-yard Koehring on his half of the grading. Other equipment included Korp and Korp's ¾-yard Osgood steamer, two Buffalo-Springfield 1-ton rollers, one Gallion roller, two Austin "pups" and two Ransome 27E pavers. Work is now in full swing on the clean up of the job which included 26,395 square yards of concrete and some 6 to 7,000 yards of excavation.

Pennsylvania Notes

Central Pennsylvania Construction Company of St. Marys have had three Bucyrus-Eries on their bridge building job at Moore, Pennsylvania. A. J. Harvey is Superintendent, operator H. O. Hendricks acting as master mechanic.

Anthracite Notes

By T. H. BARRETT

Hill and Suender, contractors of Frackville, are starting their new job reclaiming coal pillars in mined area at Lawrence Colliery of Madeira Hill Coal Company. They are also using an electric driven dragscraper to reclaim the ground layer of old coal storage area at the same colliery.

Rhoads Contracting Company of Ashland, plan to reach a vertical depth of two hundred feet in their coal stripping at Glenlyon for Susquehanna Colleries Company. Coal recovery will be effected by Bucyrus-Erie 50-B electric shovel and rehandling in successive lifts by dragline and clamshell.

Correcting an error which appeared in the May issue in reporting start of stripping at the Baltimore Colliery of the Hudson Coal Company near Wilkes-Barre by A. E. Dick Contracting Company; **Hank Smith** is in charge of this Dick job and **Phil Fritz** is shovel runner on the Bucyrus-Erie 120-B.

Pittsburgh and Vicinity

By J. S. WEAVER

Nick Istock, Aliquippa, Pennsylvania, has several contracts under way in and near Aliquippa. William White is operating a type "1030" Bucyrus-Erie shovel for Nick Istock.

Ferguson-Edmonson Company have a Type "B" Bucyrus-Erie steam shovel in operation at Carnegie, Pennsylvania, on a bridge construction across the Pennsylvania Railroad at that point. This is a State Highway project.

The Rice Construction Company of Belmont, Ohio, were low bidders on West Virginia Highway work in Ritchie County some few days ago. By the time this goes to press C. H. Rice will have the job equipped and the work well under way.

The Wheeler road bill was passed unanimously by the House of Representatives on April 20th. The measure provides for the continuation of the program of construction of the roads already on the State Highway system under the terms of the Wheeler-Flynn legislation passed two years ago. Eighteen million dollars are appropriated for this purpose in the bill which its sponsor believes, will permit construction of 500 miles of the 3000 of the unimproved highways now on the State system.

Freeland, McHale & Patten, Inc., have completed their contract for the new Wilkinsburg Golf Club. This work was done by a Bucyrus-Erie Gas + Air and tractor equipment under the able management of John McHale.

Charles Winters Construction Company, Butler, Pennsylvania, are well on to completion with their bridge contract at Butler.

Shots From the Firing Line — *Continued*

The Dunbar Corporation, Dunbar, Pennsylvania, are in full operation, materials being loaded by a Bucyrus-Erie Type "1030" electric tunnel shovel.

Mike Mannella, Pittsburgh, has completed the excavation on his Allegheny County road contract and the job will be concreted by the time this will go to press. The excavation on this work was completed in record time. A Type "1035" Bucyrus-Erie shovel handled the bulk of this work.

Ray Strawser has completed the excavation on his Ohio State Highway job and will have completed the concrete at an early date.

Thomas George, that well and favorably known Braddock, Pennsylvania contractor, was a visitor to our office some few days ago looking fine and dandy.

Ferguson Brothers, Shinnston, West Virginia, have several contracts under way at this time.

Curry and Bevan, East McKeesport, Pennsylvania have a type "B" Bucyrus-Erie steam shovel working in that Borough. These gentlemen are two real dirt movers.

Pittsburgh Paving Company have three jobs under way at this time. Both Messrs. Stitt and Crehan are looking hale and hardy after a winter in the South Hills.

Lee Snyder is operating a gasoline shovel for Allegheny County in South Park.

R. H. Cunningham & Sons Company of Turtle Creek, Pennsylvania, are making the dirt fly on the Airport road from Hays to the County Airport. This work will be completed in the usual Cunningham way, away ahead of contract time.

F. W. Scott Company of Hayes, Pennsylvania, have two Bucyrus-Erie shovels and Caterpillar hauling equipment in operation on their Rochester Road contract near Pittsburgh.

Buffalo Notes

By D. E. WHITE

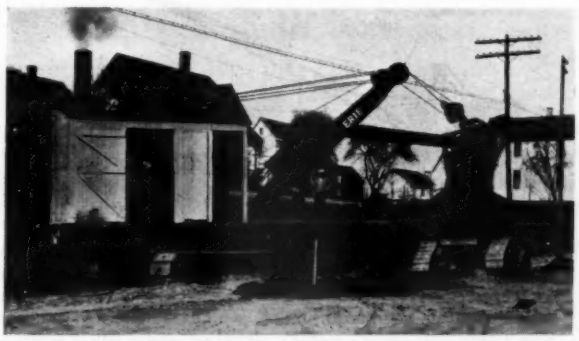
Stento & Sarafini of Binghamton, are hitting the ball on their job out of Elmira, on Waverly road. They have their Bucyrus-Erie Gas+Air and their Type B-2 on this job.

J. S. Morgan, of Olean, recently landed a New York State Highway Contract, has moved in on the job and is hard at it.

Bolton, Suits, Boldton & Gibbs, Watkins Glen, recently landed a large job out of Canandaigua, N. Y., they have their three Bucyrus-Eries in on the job.

Neilans & Walsh, of Auburn, recently landed a large job in New York State consisting of 394,000 cubic yards of unclassified excavation in Onondaga and Madison Counties. There are some large fills to be made, as the entire job consists of only 8.46 miles. They have their Bucyrus-Eries in great shape to start this work.

Ohio Notes



General contractors **Geo. B. Herring and Sons, Mansfield** have used the above Bucyrus-Erie Type B, which is loading to 4-yard Iron mules mounted on Allis-Chalmers industrial tractor Model U, for the last six years on excavating and grading of streets in the city of Mansfield.

Buckeye's 3/8-Yard Utility Unit Offers Dependable Earning Power *Plus*

Over thirty years of successful engineering have proved the soundness of Buckeye's design and construction. The same period of time has definitely established their reputation for delivering profitable performance continuously.

Into 3/8-yard full revolving Model O is built this dependability—earning power—which has always distinguished Buckeyes. It offers even more—Crane, Clamshell, Dragline or Backfiller, all as required in a day's operation. This unit now provides a greater range of usefulness than ever before available in any equipment of its class —*at its price.*

We should be glad to send you complete specifications and the surprising price of this newest Buckeye.

The Buckeye Traction Ditcher Co.

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There's a Buckeye Sales and Service Office near You

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JUST WHAT DO YOU WANT A CLAMSHELL BUCKET TO DO?

A Mouthful At Every Bite

IF you want a bucket that digs straight down deep into the material, grabs a capacity load every time, dumps clean with no waste motion, stands up under hard work with no breakage, gives longer life, pays for itself in time saved and extra yardage — You'll want an Owen, for these are Owen proven characteristics. Write for literature explaining Owen construction features.

The Owen Bucket Company
6026 Breakwater Avenue · Cleveland, Ohio

Owen Buckets

Shots From the Firing Line — *Continued*

Eastern Tennessee Notes

By R. F. McLAUGHLIN

Lee A. Gridley Construction Company of Knoxville have moved their shovel equipment to Bedford, Indiana, for State Highway work.

W. F. Ellis of Knoxville started work in the City of Knoxville Quarry on May 8th, furnishing Crushed Stone for Knoxville City Streets.

Brown Contracting Company of Chattanooga and **Myers & Rambo** subcontracting from Brown, have started work on the Jonesboro to Johnson City State Highway.

Southeastern Paving Company of Johnson City has started work on City of Kingsport, Tennessee, paving program.

Tracey Brothers of Lancaster, South Carolina, working on the State Highway Paving between Johnson City and Kingsport, Tennessee, have moved their outfit to the Kingsport side and started the second half of the job.

Southern Notes

By W. W. WHORLEY

We are sorry to learn of the death of Preston H. Haskell, for many years manager of the Charleston Mining Company at Mount Pleasant, Tennessee. Mr. Haskell was formerly connected with the Engineering Department of the Tennessee Coal, Iron & R. R. Company. Interment was held at Birmingham, Mr. Haskell's former home.

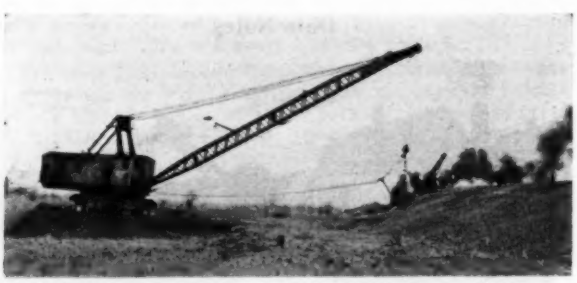
The Lewis-Chambers Construction Company is making excellent progress on the levee jobs at Upper New Texas and Chatsworth. Mr. Phillipe is in charge of the former and A. H. Milam in charge of the latter of these jobs. This Company has recently purchased barge equipment suitable to handle moving of large draglines which they are willing to rent to anyone requiring such equipment.

The Grasser Contracting Company has completed its contract at Bordelonville Hamburg. Mr. Robillard was in charge of this work. Mr. Thompson is in charge of the Plaquemine Point work being done by the same company. Frank Hingle, whose middle name is hustle, is general superintendent for this company.

F. G. Bradshaw who has been operating small shovels in New York recently visited his friends in the Birmingham District and paid us a visit.

By R. S. WELFER

Hancock Construction Company, of Mobile, are making good progress on their paving job near Selma, Alabama. They laid slightly over 1,600 feet of 20-foot paving, 6 inches thick, in a ten-hour day.



On Saturday, May 9, **Brooks-Callaway Company,** of Atlanta and Memphis, completed their Government levee contract on the Arkansas River near Gould, Arkansas, and began moving their equipment, which includes a Bucyrus-Erie Class 230 Diesel electric dragline and a 50-B dragline to the site of their new Government levee contract on the Mississippi River at Lake Cormorant, Mississippi. This company has moved approximately 815,000 cubic yards on their Arkansas River contract since the last week of December, 1930.

For your convenience in writing to The Owen Bucket Company, you will find a card bound in this issue.

The Western No. 6

The Elevating Grader You Have Dreamed About

EVERY contractor has dreamed of an elevating grader with a frame that the most powerful tractor cannot spring out of line. Here it is. Study the picture below, then send for Catalog 31-CK that gives all the welcome details.

• See that torque tube through the middle. It is the "backbone" of the frame and is the strongest form of steel construction. No possible working strain can distort that tube. Note the three-point suspension in use on an elevating grader for the first time.

• The Western No. 6 is built from the ground up on new construction lines. It has a tubular frame; 3-point suspension; a stiff-leg member by which the heavy plow can be forced deep into the ground. It has a belt that you can forget—the best belt made for the purpose and the tension automatically adjusted. All important bearings are anti-friction. Almost unbelievable yardage results.

• Catalog No. 31-CK describes and pictures every detail of this new machine. Write for it today. You will want to start the 1931 season with a Western No. 6.

• • •

WESTERN WHEELED SCRAPER COMPANY
AURORA, ILLINOIS, U. S. A.

Note the tubular frame; the 3-point suspension; the one-piece carrier: the stiff-leg plow control; the motor driven belt.

WESTERN

For your convenience in writing to the Western Wheeled Scraper Company, you will find a card bound in this issue.

"NACO"

will add 1/3 to 1/2 to the life of your Shovel Chains and Draglines

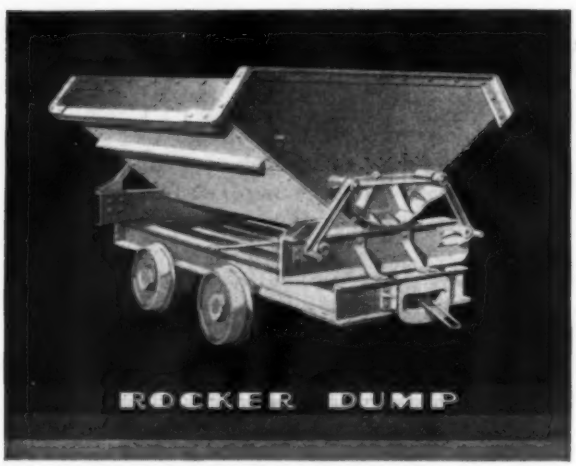
In other words—

NACO Shovel Chains and Draglines will, on account of their greater strength, hardness and uniformity, last longer, operate smoother and correspondingly reduce your chain maintenance costs.

Write for Circular No. 89-A

NATIONAL MALLEABLE AND STEEL CASTINGS COMPANY

General Office—CLEVELAND, O.



• **symmetry** delineates, in the 'quarry' car, the true relationship of its components . . . the match and balance which tests the designer's skill, rather than mere application of geometric procedure.

• **stamina** to the 'quarry' car is what water in elevation is to the turbine—an agent of power . . . a staying quality that only knowledge based beyond theory may impart . . . a reincarnation of yesteryear's quarry practice.

• **strength** a factor requisite that the body may withstand the brutal blow of a massive stone as it topples through space from the overloaded dipper.

EASTON CAR & CONSTRUCTION COMPANY, EASTON, PA.

Shots From the Firing Line — *Continued*

Couch Construction Company, at Dothan, Alabama, have about finished their paving in Mobile County. They have several projects ahead of them in Louisiana.

Nichols Contracting Company, of Atlanta, was awarded three grading projects at the Georgia State Highway letting April 30. The same letting carried ten paving projects which were awarded to eight concerns.

Ed Pettus, well-known bridge builder of Montgomery, Alabama, was awarded a good job in Texas.

W. C. Shepherd, of Atlanta, has three grading jobs on hand.

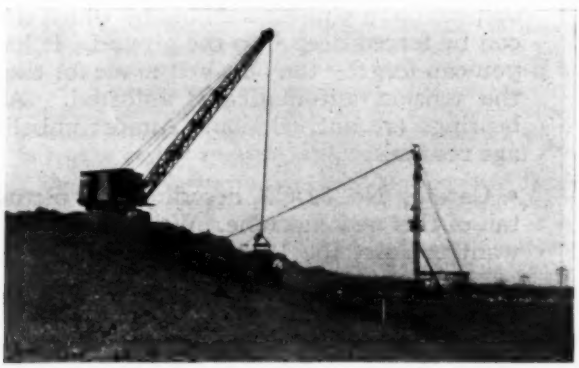
Tom Aiken, who has many friends among operators and contractors, is in Atlanta at present.

Conrad Jamison, of Jamison Brothers, Nashville, was a recent visitor in Atlanta with his usually happy smile. Mr. Jamison's friends are always glad to welcome him to the Metropolis of the South.

The **Georgia State Highway Board** opened bids on May 7, covering maintenance equipment for the coming year. Bids were received at the new State Highway Building in Atlanta. It took the Commission from ten o'clock one morning until noon of the next day to read the unusually large number of bids received. Included in the bids were figures on a ½-cubic yard combination shovel and dragline and a ¾-yard shovel, both of these machines to be with gasoline power.

Mississippi River Notes

By W. W. WHORLEY



The above view taken on the **H. E. Culbertson Company's** levee building operations near Tunica, Mississippi shows how Mr. Culbertson uses his Bucyrus-Erie 1-yard Diesel dragline to finish the levee behind his Bucyrus-Erie tower excavator. While the tower machine can use its bucket to good advantage for the finishing, Mr. Culbertson finds it cheaper to use the small dragline, thus eliminating any delays to the 10-yard bucket of the tower machine.

Detroit and Vicinity

By G. E. PETERSON

The C. A. Handeyside Company of Detroit has been awarded 10.3 miles of road construction in Lapeer County. This job calls for moving 300,000 yards of dirt and building drainage structures. The Handeyside Company plan to use three of their Bucyrus-Erie steamers on this work.

The Carl Vinton Construction Company of Coldwater, Michigan has 9.3 miles of 20' concrete pavement in Ionia County on M-21.

Geo. Brocker, operator on the Grand Rapids Gravel Company Diesel-Air shovel, reports recently making some new yardage records with his machine.

The Royal Oak Construction Company of Birmingham, Michigan has been awarded 9.5 miles of 18' two course gravel road in Tuscola and Sanilac counties.

R. R. Heffner of Celina, Ohio was low bidder on 3.8 miles of 20' concrete pavement in Mercer County. This is the St. Marys-Fort Wayne Road S. H. No. 173.

Shots From the Firing Line — *Continued*

Pickett & Goodwin Bros. of Allegan, Michigan are low bidders on 7.8 miles of grading and drainage structures in Iosco County. This job has about 155,000 yards of dirt to be moved.

The Churchill Company of Lima, Ohio was low bidder on the Sidney-Wapakoneta Road in Shelby County. This job is 6.4 miles of 20′ concrete pavement.

This picture shows the **Louis Garavaglia Company** Gas + Air shovel excavating the approaches on the Allen Road, Outer Drive and the Wabash Railroad Grade Separation. The work is being done for the Wayne County Road Commission and the general contract is held by the Bradley Construction of Detroit. The job calls for construction of an underpass for Allen Road and the Outer Drive under the Wabash Railroad tracks. The job involved about 100,000 cubic yards of excavation. The old existing concrete pavement crossing the Wabash at grade was broken up by the Alpine Excavating Company of Detroit, using a Bucyrus-Erie B-2 shovel with a 2000 pound skull-cracker. Mario Calcaterra of the Alpine Company tells us he broke the 6400 square yards of old 8″ pavement in 42 hours. The Louis Garavaglia Company is also using their Bucyrus-Erie B-2 on this work for sewer excavation and also on the approaches. There will be a temporary relocation of the Wabash tracks during the construction of the new project.

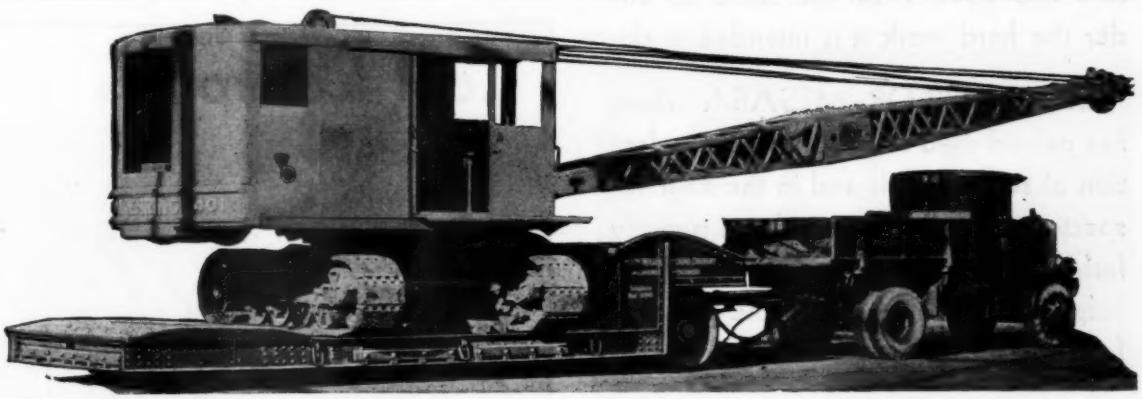
Chicago and Vicinity

The Suburban Paving and Improvement Company recently announced the change in their address to 629 N. Kedzie Avenue, Chicago, their phone number remaining the same.

Minnesota and Dakota Notes

By H. L. JONES

Landers-Morrison-Christenson Company, well known dealers in building materials of Minneapolis, are using the above 41-B Bucyrus-Erie electric shovel in their gravel pit at St. Louis Park near Minneapolis. The machine loads into 5-yard Western Wheeled Scraper cars hauled by Plymouth



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Shots From the Firing Line — *Continued*

13-ton gasoline locomotives. The excellent gravel from this pit is used in and around the Twin Cities and on highways as aggregate for building and paving operations. Commenting on the performance of the machine Chas. H. Young, Plant Manager in Charge of Operations of Landers-Morrison-Christenson Company says, "This shovel has given us excellent satisfaction in every respect and we are exceedingly well pleased with our purchase. The operating costs have been below what we anticipated and it has permitted us to make savings in our costs not anticipated at the time of the purchase. No major repairs of any kind have been needed during the year and we feel that we made no mistake in purchasing a Bucyrus-Erie shovel."

St. Louis and Vicinity

By A. J. KOENIG

The Riley Contracting Company, St. Louis, was awarded contract for laying fifty-seven miles of sewers in North Memphis and Hollywood, Tennessee. The Riley bid was $169,119 which amount was $116,000 under the highest of 21 other bidders.

L. R. Bowen, City Engineer of St. Louis will receive bids at an early date for the construction of a reinforced concrete bridge on Riverview Drive, over the Marline Creek. Estimated cost $110,000.

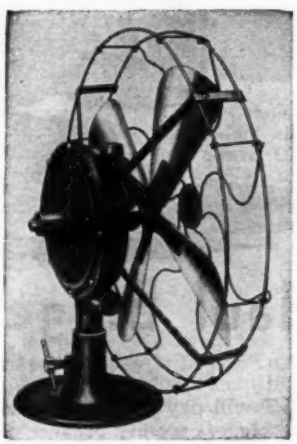
Arkansas-Missouri Power Company, 72 West Adams St., Chicago, plans the construction of two power dams on the Spring River near Mammoth Springs, Arkansas.

Frazier-Davis Construction Company was low bidder for the construction of one section of the Mill Creek Public Relief sewer in St. Louis. The bid was $108,576.

The Skrainki Construction Company, St. Louis, was low bidder for the construction of 3038 feet of concrete road in St. Louis county. Their bid was $31,299.

Cool Comfort » »

Now, as hot weather comes on, when the day's output goes down as the thermometer goes up, put your operator on a mild weather schedule with an 18" steam fan



Provides steady stream of cooling air that "licks" both the heat of the boiler and the sun's hot rays beating down upon the roof. Requiring practically no attention while in service, it is self-oiling and a ¼ inch pipe supplies all the steam required.

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Shots From the Firing Line — *Continued*

J. F. McMahon Construction Company was low bidder for the construction of the Airport road bewteen Natural Bridge and Brown roads in St. Louis county. This road, 6970 feet long will be 20 foot concrete. The bid was $59,785.

Proposals for the grading and paving of over $6,000,000 of highway projects were opened by the Illinois State Highway Commission on May 12th. The bids call for 163 miles of paving, thirteen bridges and 34.69 miles of grading. **Jaicks Bros.**, Chicago were low on three paving projects in Christian and Morgan counties. **Lefferdink Construction Company**, Lincoln, Ill. was low on paving 7.96 miles in Effingham county with a bid of $69,409. **Jos. Kesl**, Edwardsville, Illinois was low bidder for paving 8.78 miles in Christian county with a bid of $146,503.

Henkel Construction Company, Mason City, Iowa have an outfit on a 8.03 mile paving job in Jersey county, Ill.

R. B. Potashnick, Cape Girardeau, Missouri was awarded contract for grading 11.5 miles of state road in Williamson county, Illinois.

J. H. Hayes, 7019 Hancock Ave., St. Louis has eight teams and fresnos idle, looking for work for them.

The Missouri State Highway Commissison received bids on May 2nd approximating $1,200,000 on 32 miles of concrete paving, 68 miles of chat and gravel and 17 miles of graded earth. **Chas. H. Lund** of St. Louis was low on grading and paving 9.8 miles 20 foot concrete in Jefferson county with a bid of $316,792. Involved in this project are 227,677 cubic yards of earth and 63,633 cubic yards of rock. **Martin Wunderlich Construction Company**, St. Paul was the low bidder for grading 10.4 miles in Cole county. This project involves 122,499 cubic yards of earth and 73,233 cubic yards of solid rock. Their bid was $98,760.

Ray Meyers, Hope, Kansas has some two-yard six-speed International trucks and four yard dump trucks suitable for hauling earth, sand, rock, gravel or cement batch. Anyone interested get in touch with Mr. Meyers at Hope, Kansas.

By W. C. VINES

Garrett Construction Company are using their Bucyrus-Erie 1035 in Benton County, Missouri, near Cross Timbers. Operator Earl Stigall is pulling the levers and turning out big yardages as he did at Lebanon, Missouri, on Highway 66 where the above picture was taken.

Kansas City and Vicinity

By THEO. W. SMITH

The Boyle Construction Company of Kansas City, is completing the Robert Gillham Drainage Sewer Contract on which they used an Erie Type "B" Steamer with a special length dipper stick, going to a depth of approximately 20 feet with the Erie working from a platform directly over the excavation. During the first part of the digging, the early spring thaw practically resulted in the steamer digging its own grave. The platform on which the shovel was

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Save with Steel
Manufacturers of The Toledo Horse—the ideal highway barricade

Shots From the Firing Line — *Continued*

working gave way in the front causing the Erie to slide into the ditch boom first. After this mishap the shovel was in the ditch the front end resting on the boom and rear suspended from the platform. A caterpillar tractor was hooked on the platform and it was pulled from under the shovel letting the machine down in the ditch. Then an incline was dug and the steamer was run out under its own power. With a few minor repairs it continued digging—completing the job in record time.

Missouri still continues its road building program. Contractors received awards for work in various parts of the state at a letting May the 2nd.

W. C. Hill Construction Company is holding its Bucyrus-Erie machine in readiness to begin the excavating work on the new Missouri-Kansas Elevator Job in Kansas City. This job will be started in the next week or ten days with several thousand yards of dirt to be moved.

Arkansas Notes

Here is what **James Spencer & Son Construction Company** of St. Joe, Arkansas have been doing lately. During the later part of March they completed a $12,000 grading, drainage and gravelling job on State Highway No. 6 near Hot Springs. From there their Camp No. 1 was shipped to Palmer, Texas, where under the able direction of James Spencer they are handling a $43,000 highway project with elevating graders and tractor drawn wagons. From the Hot Springs work their Camp No. 2 moved in on two highway projects totaling $75,000 located on Arkansas State Highway No 65, Searcy County. They are building these projects with the aid of their three Osgood gasoline shovels—two Victors and one Commander. Their hauling equipment on these jobs consists of Hug trucks and 1½ yard team drawn wagons.

Texas Notes

By G. A. CARLSON

Among the out of state contractors busy on Texas State Highway work are **Froemming Brothers of Milwaukee** who have just finished paving in Foard County and started paving outfits in Grayson and Fort Bend Counties. Ben Froemming is in charge of the Grayson County work and Mr. Kies on the South Texas work.

Mr. Walsh of S. & H. Construction Company of Milwaukee was awarded contract for paving the gap in the Old Spanish Trail through Liberty County at Dayton. S. & H. recently finished paving through Crosby. J. D. Horton is operating their Type "1030" crane.

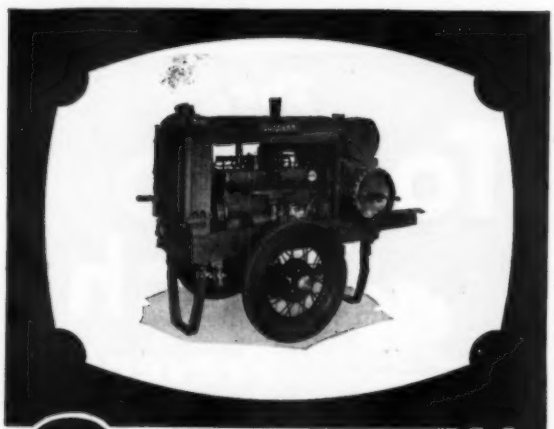
George W. Condon Company of Omaha made sure of staying down South this summer by getting additional highway work near Waxahachie. They have just finished the approaches to the Red River bridge at Ringgold, Texas where one of their E-2 Bucyrus-Erie Diesel draglines made a fine record working three regular eight hour shifts daily.

J. W. Gwin of Birmingham, Alabama has about made Texans out of one of his shovel outfits. Former Bucyrus-Erie Erector King who stayed with Gwin after installing their 1¼ yard Gas + Air in Kent County last season, continued with record progress in Fayette County, and is now on a Uvalde County State Highway job. Messrs. Brown and Shepherd are in charge of Mr. Gwin's Texas operations.

Jim Patterson, General Superintendent of Fegles Construction Company of Minneapolis, General Contractor on the Hamilton Dam above Burnet, Texas is pushing preliminary work along at a fast rate. There are 130,000 cubic yards of concrete to go in the multiple arch type dam which is 135' high. Charles V. Conkey, Vice President-General Manager, spent most of May at Austin and at the dam site seeing the work get under way. A Bucyrus-Erie Type "B" steam shovel was one of the first pieces of equipment to come in over the new railroad to the dam site, completed early in May by Fred Holt of Marble Falls. This power development will form a big lake for thirty miles back of the dam which will be the best of accessible vacation spots in Central Texas for sportsmen.

Tyree Bell, F. P. McElwrath executive of Corsicana, has been **elected president** of the Texas Highway Branch of A. G. C. succeeding Charles Henning of Womack-Henning-Rollins Company of Abilene. Don Lee continues as executive secretary. Charlie was presented with a fine Gladstone bag by the directors as appreciation of his efforts which greatly aided in improving the status of highway contracting in Texas.

Keller and Pelphrey of Dallas, formerly L. W. Pelphrey and Company of Breckenridge, have their Bucyrus-Erie 1¼ yard Gas + Air shovel at work in Pecos County on a 4½ mile State Highway job out of Fort Stockton that consists principally of solid rock excavation. W. O. Pelphrey, brother of L. W., and Mr. Reynolds are in charge of the job. J. C. Marchbank is running the Gas + Air.



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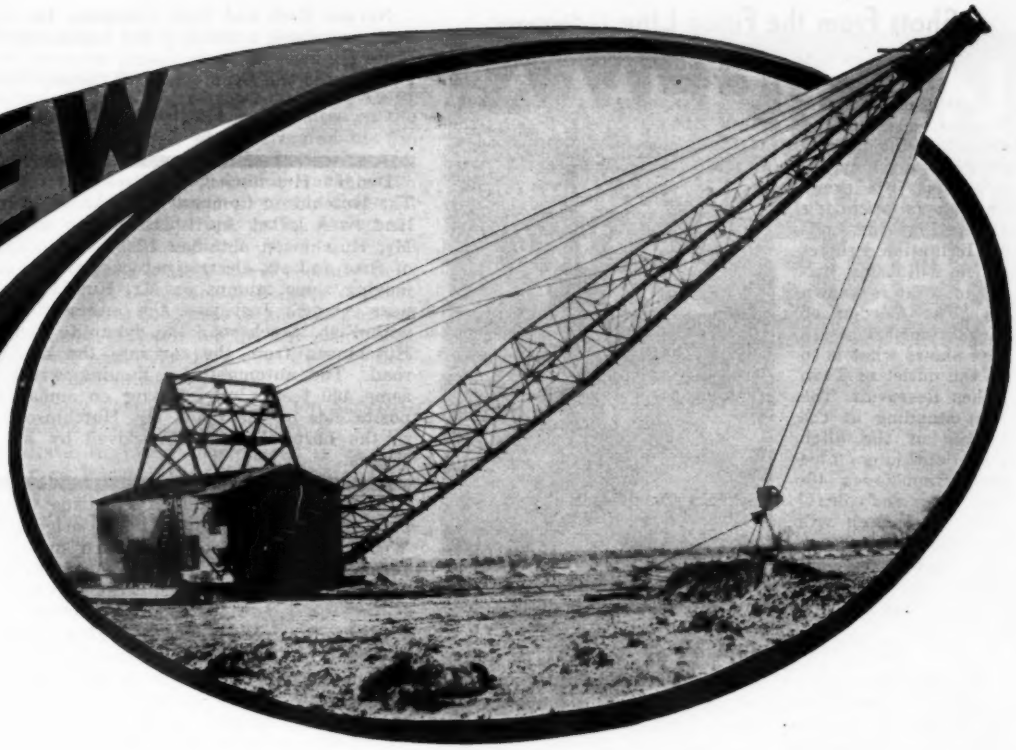

Long Reach — Big Capacity
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Bucyrus-Monighan announces a new 6 cu. yd., 150 ft. boom walking dragline—the 6150.

Never before has a dragline of this bucket capacity and long reach been given the great advantage of Walking Traction.

This machine is a fast worker and moves just as easily as the smallest Walker — angles off from the line of work or side-steps obstructions in its path. It walks and works, even on ground that is wet and yielding from continued rains.
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B-2

Shots From the Firing Line — *Continued*

Montana Notes

Operator Andrew Wiggin sends us the accompanying picture showing a Bucyrus-Erie Class 9½ dragline he is operating on the **Flathead Indian Irrigation Project** which will bring water to what is known as "The Garden of the Rockies." The picture shows what is to be the outlet of Twin Lakes Reservoir. The men standing at the bottom of the ditch are outlining the foundation for a 40-foot tower and control gate. The ditch will hold 900 feet of 8-inch tile when it is completed and it will be backfilled, leaving the control gate crank 10 feet above the ground. The trench is 30 feet deep.

Nevada Notes

Patrick Cline, Inc. of Las Vegas was recently awarded contract by the Department of Highways for construction of portion of the State Highway in Clark County between ten miles southeast of Las Vegas and Boulder City on a bid of $84,642.25.

In Churchill County between five miles south of Fallon and Salt Mills **Dodge Bros., Inc.** of Fallon will reconstruct the state highway on basis of their recent bid.

Nevada Rock and Sand Company, Inc. of Reno were recently awarded a contract for reconstructing a portion of State Highway in Lyon County between five miles north of Femley and the Lyon Churchill County line.

California Notes

By J. W. SACKETT

Dwight Hutchinson, 55, President for twenty years of The Hutchinson Company, well known contractors of Oakland, was killed April 29th in an unfortunate accident. Mr. Hutchinson obtained 12 sticks of dynamite, 150 feet of fuse and six electric percussion caps to be used in removing some stumps on Mr. Hutchinson's country estate near Alamo. Just past the intersection of Tunnel Road with Fish Ranch road the dynamite exploded hurling Mr. Hutchinson from the car into the brush along side the road. The automobile, a flaming wreck, hurtled on for some 400 feet, plunging over an embankment on the opposite side of the road. Mr. Hutchinson died on the way to the hospital. He is survived by his wife and three sisters.

R. G. Le Tourneau, Inc. is putting through an 111 foot cut (above) to eliminate a tunnel originally planned on the Western Pacific—Great Northern link in Northern California. Le Tourneau chariots, Caterpillar Sixties, and trucks are hauling from the Northwest shovel.

By H. L. LIVINGSTON

Bids will be received on June 12th by the Secretary of the Golden Gate Bridge & Highway District in San Francisco for the construction of the **Golden Gate Bridge** across the Golden Gate at the entrance to San Francisco Bay. This contract will cover the steel super structure involving 72,000 tons in towers and trusses and 28,000 tons in cables. This work will be split up into a number of other contracts involving the main piers, anchorages, approach spans, toll terminals and highways. The estimated cost of the above project is 35 million dollars.

IMPROVED friction surfaces are required to meet the modern demand for greater speeds and heavier loads in excavating machinery.

BECO-BLOCKS and BECO-LININGS have been developed to meet this need and we recommend them as the most serviceable friction materials.

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For your convenience in writing to the Bucyrus-Erie Spec. Dept., you will find a card bound in this issue.

Shots From the Firing Line — *Continued*

The U. S. Reclamation Service, in charge of Elwood Mead, visited Parker, Arizona recently for the purpose of investigating the upper and lower Parker dam sites on the Colorado River and 746,000 acres to be irrigated by the construction of the Parker Dam. It is believed that the Parker lower dam site will be chosen as this would eliminate the building of 12 miles of canal along the Colorado River and other expensive construction work. A dam at the lower site would be 70 feet high.

Eleven inches of snow from a sleet storm recently temporarily delayed progress on the **Simon & Wallace** contract so E. A. Wallace had time to drop into San Francisco for a visit. He tells us that his estimate for the last month was larger than he expected and that their new Bucyrus-Erie GA-3 is working out 100% satisfactorily.

Jack Boyd just recently went out to operate the Bucyrus-Erie Gas + Air machine for Mendocino County.

The California State Highway Department is renting Hemstreet & Bell's new Bucyrus-Erie 1025. Operator Clifford Ames who is at the levers tells us that the 1025 is certainly the last word in shovels and his good opinion is confirmed by the engineer on the job who comments that "It is the best working machine I have ever had on any job."

Jack Emory is operating one of the new Bucyrus-Erie 43-B gasoline machines for Six Companies, Inc. on the Boulder Dam job. We just had a letter from him the other day which states this is the best friction type machine he has ever handled.

The Utah Construction Company, Incorporated, announced on March 30th the removal of their offices to Suite 321, Crocker First National Bank Building, San Francisco.

Oregon Notes

March Construction Company of Spokane, Washington was recently awarded contract for the west unit of 4.9 miles of regrading on the Old Oregon Trail in the Huntington-Slides section. The East unit of 5.1 miles of regrading on this same highway was awarded to **J. A. Terteling & Sons** of Spokane.

Earl L. McNutt of Eugene was awarded 2.97 miles of grading on the Elkton section of the Umpqua Highway in Douglas County.

Yunker-Weicks Company of Toledo secured 5.74 miles of grading in Lake County on the Picture Rock Pass Section of the Fremont Highway.

Washington Notes

J. H. Collins & Company of Colville, Washington were awarded a contract for concrete paving on 4.5 miles of state highway number 3 between Lowden and Touchet in Walla Walla County.

Contract for clearing, grading, drainage and surfacing on crushed stone on about 1.3 miles of state highway number 14 from Manchester South in Kitsap County was awarded to **W. H. Yeager, Jr.,** of Olympia, Washington. Included in the work is 44,440 cubic yards of excavation.

A farmer was passing an insane asylum with a load of manure and was hailed by one of the inmates.

"What are you going to do with that manure?"

"Put it on my rhubarb," said the farmer.

"That's funny," the inmate replied, "I put sugar on mine and they call me a nut."

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The illustration shows American Wire Rope in use on the world's largest electric shovel.

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Equipment You Ought to Know About

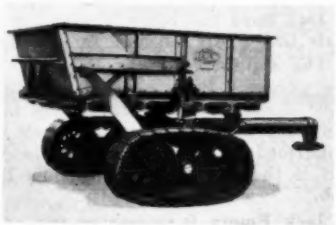
(Continued from Page 288)

like a dragline bucket with teeth which break up the soil and facilitate easy loading. This scoop is so designed that it is loaded and then lifts and carries its load to the point where it is to be deposited. Because of the shape and construction of this scoop, it enables the tractor to handle an unusually large volume of earth and dig and load under most adverse conditions, such as in hard-packed soil, rocky soils, etc. Its close, compact attachment enables the tractor to back into the loading point, pick-up its load and haul it away. After the load is dumped, a bulldozer attachment which may be carried at the front of the Bullscoop frame enables the same outfit to bulldoze the material to position, level and pack it. The entire Bullscoop may be quickly and easily attached, or detached.

This Bullscoop is made in three sizes: 16-cubic feet, 23-cubic feet, and 30-cubic feet, for "Caterpillar" Ten, Fifteen, and Twenty tractors, respectively.

A complete circular describing this tool may be secured by writing direct to the *LaPlant-Choate Mfg. Company, Inc., at Cedar Rapids, Iowa,* or by calling at the office of any "Caterpillar" dealer. Please mention *The Excavating Engineer* in making inquiries.

Euclid Rear End Dump



THIS NEW 8-yard Euclid Wagon meets the long existing need for a heavy duty wagon which can be used most advantageously in mountain road construction or on high fills where it is claimed to work faster and more efficiently than a three-way dump wagon and with a lower initial cost. It is particularly constructed for working under a shovel and for hauling rock, dirt, clay, sand or shale.

This husky wagon is exceptionally easy to handle and is under complete control of the tractor driver. The wagon is dumped by means of a trip

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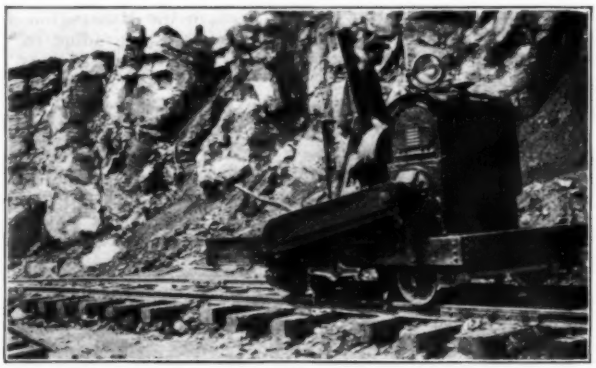


Shifting Track in the Quarry

Whether it is in the quarry, or on the waste dump where the overburden is disposed of, this machine and a few laborers will do all the required shifting and raising of track.

No large track gang need be maintained. Other operations need not be delayed waiting for track to be moved, or men taken from regular duties to work on track. Modernize your track raising and shifting operations with the Track Machine. It will save time and labor expense.

NORDBERG MFG. CO., Milwaukee, Wis.

THE NORDBERG PATENTED TRACK SHIFTER

For your convenience in writing to the advertisers on this page you will find a card bound in this issue.

cord from the driver's seat to a lever on the wagon. The wagon unloads itself by gravity and when empty falls back automatically into the loading position. There is no human or mechanical assistance necessary for either operation.

When hauling extremely large rocks the gate can easily be removed, leaving the rear end open for easy discharge. In cases where driver does not get close enough to clear the fill he can use the wagon as a bulldozer to push the material over the fill.

For complete specifications write *The Euclid Crane & Hoist Company, Road Machinery Division, Chadron Road, Cleveland, Ohio.*

New Erie Dragline Bucket

A NEW dragline bucket is being marketed by the *Erie Steel Construction Company,* of Erie, Pennsylvania. Particular attention has been given in designing this new bucket for eliminating all unnecessary weight. The bucket is well balanced and a light pull on the dump line holds it in a carrying position and

when released the bucket dumps freely. The bridge is built to keep the sides from pulling in tied with the lip and side plates. The hitch plates are heavy steel castings overlapped by reinforcing plates and angles are interlocked with the base of the bridge and the ends of the lip. Corner connections are flanged to protect against possible strains when the bucket is in action. The one-piece back band is tied into the bridge and welded and riveted to the side plates. Alloy steel renewable reversible teeth and alloy heat-treated lips are regular equipment. The bucket comes complete with chains ready for attaching to the dragline. Complete information may be obtained by adressing the manufacturer and referring to this publication.

Ingot Iron Cribbing

THE *American Rolling Mill Company of Middletown, Ohio,* have recently announced Ingot Iron Cribbing for retaining walls. A new metal cribbing is of standard form galvanized sections, either six or eight feet in length, and held together by a sturdy interlocking device. Economy and speed of installation are outstanding in the advantages claimed. The wall is in service as soon as installed. The units are about one-fourth the weight of other known designs, thus reducing transportation costs and the expense of handling. The wall may be erected by unskilled labor. The metal cribbing can be dismantled and relocated without the loss of a single unit. The height of the wall can also be increased if it is necessary to raise the grade. The face of the wall may be curved if desired. Where closed face walls are desired galvan-

WHEN HELL GATE WAS EXPLODED

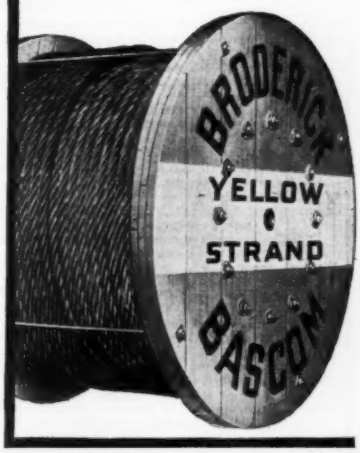
TWO important events in excavating history occurred in 1876—the Hell Gate Blast which cleared the ship channel off Long Island, and the first appearance of B & B Wire Ropes, which have dug and scraped for you ever since.

Try out Yellow Strand, most powerful of excavating lines—its wire drawn from Swedish Stock and **proved** by laboratory test to be uniformly and highly elastic, ductile, strong and tough.

Write for Catalog 51

Broderick & Bascom Rope Co.
St. Louis
New York Houston Portland Seattle
FACTORIES: St. Louis and Seattle

Wire for all B&B Ropes undergoes many important laboratory tests before being laid up into rope.



P 8

YELLOW STRAND
WIRE ROPE
MADE OF WIRE DRAWN TO OUR SPECIFICATIONS FROM GENUINE SWEDISH STOCK

For your convenience in writing to Broderick & Bascom Rope Co., you will find a card bound in this issue.

ized metal filler plates can be supplied to fit between the units to prevent the backfill from filtering through.

Distribution is in the hands of the Ingot Iron Railway Products Company of Middletown, Ohio, and complete information may be obtained by writing to this company and referring to this article in The Excavating Engineer.

New 3-yard Diesel Dragline

A NEW 3-yard Diesel dragline, known as the Class 111, has recently been announced by *Bucyrus-Erie Company of South Milwaukee, Wisconsin.* This machine combines the great mobility afforded by crawler mounting with an extremely large ground bearing area which makes it possible for the machine to work and move in safety on soft ground. The machine is built only as a dragline and has many features that make for big outputs.

The power unit is an Atlas Imperial six-cylinder, full Diesel engine of very high torque even at slow speeds and shows unusual economy in fuel costs due to the small quantity of cheap fuel consumed.

The machine has complete air control; the short, easily operated hand levers permit the operator to work steadily hour after hour without fatigue. Other features include: steering from the operator's position; ability to swing and propel at the same time; power driven boom hoist; non-collapsible Bucyrus-Erie bucket; box type lattice boom; large area cone swing clutches, silent engine transmission fully inclosed and running in oil and simple dependable time-tried construction throughout. A bulletin on this machine may be had by writing the manufacturer. Please mention *The Excavating Engineer.*

Kelly: "You look sweet enough to eat!"
Billie: "Goody! Where'll we eat?"

POSITIONS WANTED

Space under this heading is available at $5.50 per inch or fraction thereof.

Address all box numbers c/o The Excavating Engineer at South Milwaukee, Wisconsin

DRAGLINE OPERATOR

14 years' experience on Monighan draglines on all types of excavating. Willing to go anywhere. Can do own repair work and can furnish reliable references. Box 1516.

SHOVEL OPERATOR

14 years' experience on Gas + Air, gasoline and steam machines on highway and railroad construction work. Will go anywhere. Can furnish excellent references. Married. Present location, Virginia. Box 1507.

SHOVEL OPERATOR

Experience covers years on highway construction work. Can give complete satisfaction on any job. Prefer operating Bucyrus-Erie 50 or type B-2 anywhere in U. S. A. Available immediately. Excellent repair man. Reliable references furnished. Present location, Washington. Box 1508.

DRAGLINE—CRANE OPERATOR

Experience covers 25 years on electric, gasoline, Gas + Air and steam machines on highway and dam work. Also served as master mechanic on recent Eastern dam project. Capable of handling all repair work. Can furnish first-class references. Married. Present location, Maine. Box 1509.

DRAGLINE OPERATOR

10 years' experience on Diesel and gasoline powered machines on dredging, levee and general excavation. Prefer handling gas or Diesel machine anywhere in country. Married. Can do own repair work and furnish A-1 references. Present location, Missouri. Box 1501.

DRAGLINE AND CRANE OPERATOR

Fully experienced on Diesel, electric, gasoline and steam machines on highway excavating and dredging work. Will go anywhere in U. S. A. Married. Can do own repair work and furnish excellent references. Present location, Florida. Box 1502.

DRAGLINE OPERATOR

Experienced on highway grading and levee work. Prefer operating small dragline anywhere in U. S. A. Fully competent to handle all repair work. Can furnish good references. Married. Present location, Louisiana. Box 1503.

SHOVEL OPERATOR

13 years' experience on steam machine on coal stripping operations and general construction work. Available for work in any part of U. S. A. Excellent repair man. Can furnish reliable references. Married. Present location, Ohio. Box 1504.

DRAGLINE—CRANE—SHOVEL OPERATOR

Have operated steam, gasoline, Diesel and Gas + Air machines for 14 years on highway excavating, dam work and rock quarry. Will go anywhere in U. S. A. Can do own repairing and furnish good references. Married. Present location, Michigan. Box 1505.

DRAGLINE OPERATOR

Experienced on all types of dragline work. Can handle gasoline and Diesel machines. Prefer operating Bucyrus-Erie 50-B or type E-2, but will consider any offer. Available for work in any part of U. S. A. Married. Can do own repair work and furnish reliable references. Present location, Arkansas. Box 1506.

SHOVEL OPERATOR

12 years' experience on Gas + Air and steam machines on highway grading and basement excavating. Can furnish reliable references and can do own repairing. Will go anywhere. Location in Minnesota. Box 1517.

DRAGLINE—CLAMSHELL—SHOVEL OPERATOR

16 years' experience includes operating of Bucyrus-Erie, Northwest, Koehring and Orton machines on highway grading and drainage work. Can handle Gas + Air, gasoline and steam powered machines. Prefer dragline work anywhere in U. S. A. Excellent repair man. Married. Can furnish reliable references. Present location, Ohio. Box 1510.

DRAGLINE—CLAMSHELL—SHOVEL OPERATOR

13 years' experience on electric, gasoline, and steam machines on mining operations, quarry excavating and dredging. Prefer work in central states. Will consider any offer. Can handle all repair work and furnish the very best of references. Married. Present location, Indiana. Box 1511.

DRAGLINE OPERATOR

28 years' operating electric, gasoline and steam machines on all types of excavating and dragline work. Available immediately for work in any part of U. S. A. First class repair man. A-1 references. Married. Present location, Florida. Box 1512.

DRAGLINE—SHOVEL OPERATOR

Experience includes highway grading, materials handling and rock quarry excavating. Prefer work in central states. Can do own repair work and furnish good references. Single. Present location, Kentucky. Box 1513.

DREDGE AND SHOVEL OPERATOR

Experience includes 23 years on dredges in U. S. A. and Canada and also operated shovels for several large contractors throughout the U. S. A. Will consider any reasonable offer. Can do own repair work and furnish good references. Married Present location, Ohio. Box 1514.

SHOVEL OPERATOR

Experience covers 11 years on Bucyrus-Erie gasoline, Diesel and steam machines on all types of excavating. Available for work anywhere. Can do own repairing and furnish very good references. Present location, Louisiana. Box 1515.

BOOK REVIEWS

Recently issued by **Bucyrus-Erie Company** is the attractive bulletin on the 43-B gasoline, Diesel or electric Shovel-Dragline- Clamshell-Lifting Crane. This new 1½-1¾ yard machine was recently introduced by Bucyrus-Erie and if interested in securing a copy of the bulletin write the manufacturer at South Milwaukee, Wisconsin. Please mention The Excavating Engineer.

An attractive, illustrated circular issued by the **Trackson Co., 1320 So. First St., Milwaukee, Wis.**, describes the adaptability of the new Model GH Trackson McCormick-Deering. This heavy-duty crawler tractor is designed especially for the mounting of shovels, bulldozers, snow plows, pipe booms, hoists, cranes, etc., and is suited to all kinds of highway, contracting, and industrial operations.

Alcoa Aluminum for Truck Bodies is the title of a well illustrated 90-page (8½x11) booklet recently published by the Aluminum Company of America. Many operating and weight saving analyses are given but most of the data pertains to tank or delivery trucks. One stone company, the book points out, carried 12 tons of extra material per day through the saving of weight permitted by the aluminum body.

No doubt excavating contractors, stone producers and others in the excavating industry will be interested in learning more about Alcoa aluminum bodies. Write **Aluminum Company of America, Pittsburgh, Pa.**, if interested. Please mention this magazine.

"Caterpillar Sixty Leaning Wheel Grader" is the title of a recent catalog prepared by **Caterpillar Tractor Company, Peoria, Illinois.** Like other Caterpillar booklets it is superbly illustrated. Anyone interested in securing latest information on graders should write for this book. Size 9x6; 32 pages.

Pipe Lines and the Caterpillar and **Public Utilities and the Caterpillar** are two books recently published by **Caterpillar Tractor Company, Peoria, Illinois.** 32 and 24 pages—6x9—they are handsomely illustrated with pictures that tell the story.

Three new construction equipment catalogs dealing with Rex Chain Belt Equipment are ready for distribution. Catalog 204 deals with Rex building mixers, Rex pumps, Rex saw rigs, Rex plaster and mortar mixers. This is a sixty-four page catalog telling how men may build better, faster and at a lower cost. Catalog 206 illustrates the Rex Champion paver and road pump for 1931.

Chain Belt Company is announcing something entirely new in catalog 205, entitled "Rex Concrete Factories." It is the most complete book of its kind ever published. It deals with three types of concrete factories—wet, dry, and shrinkage! It gives complete information on Rex moto-mixers for dry plants, Rex moto remixers for shrinkage plants and Rex moto agitators for wet plants. This book also gives engineering data on Rex elevators and Rex Stearns belt conveyors for concrete factories of all types.

For any of these catalogs, write **Chain Belt Company, Milwaukee, Wisconsin.** Mention The Excavating Engineer, please.

The new Loadmaster bulletin published by Bucyrus-Erie Company of South Milwaukee, Wisconsin describes and illustrates this handy "small crane that goes places and does BIG things." The unit has a full revolving boom, is mounted on wheels or crawlers, and may be equipped with air compressor, winch or bulldozer as desired. It has a wide variety of uses a number of which are illustrated in the bulletin. For your copy write Bucyrus-Erie Company, mentioning this magazine.

A new eight-page circular on **Trackson Crawler Wheels** describes the advantages of this equipment for heavy hauling operations. It is printed in two colors and is illustrated with interesting action photographs of the wheels. Write to the **Trackson Co., 1320 So. First St., Milwaukee, Wis.**, for this booklet.

Armco Culvert Manufacturers Association of Middletown, Ohio, have recently published a new catalog illustrating Armco Perforated Pipe. Blue prints and photographs show how this pipe has been successfully used to eliminate wet cuts, frost boils, soft spots, landslides and for the drainage of large open areas, as used in draining athletic fields, reclaiming swamps, for airport drainage, mosquito elimination and the draining of railway ballast pockets and other drainage projects. Copies may be obtained by writing the above. Please mention The Excavating Engineer.

W. A. Riddell Company, Bucyrus, Ohio, has issued Circular 3103 on "Warco" one-man power grader, which will interest those concerned with road upkeep. This 6-page circular is a well-planned and illustrated source of information. When writing W. A. Riddell Company, please mention The Excavating Engineer.

A well illustrated 16-page bulletin (8½x11) on the 2½-yard 75-B electric quarry, mining, and general purpose shovel and dragline has recently been issued by **Bucyrus-Erie Company, South Milwaukee, Wisconsin.** If you are interested in securing a copy of this new bulletin, write the Bucyrus-Erie Company, mentioning this magazine.

Davey Compressor Company of Kent, Ohio, have recently issued a very attractive booklet entitled "4 Air Compressors Went to School." The publication tells of tests and comparison of features of practical value made by the Mechanical Engineering Department of the Case School of Applied Science and describes and illustrates the Davey Air Compressors.

Address the above for your copy, mentioning The Excavating Engineer.

A bulletin on the recently announced GA-3 1¼-yard shovel-dragline-clamshell-lifting crane, has just been issued by **Bucyrus-Erie Company of South Milwaukee, Wisconsin.** Excellently illustrated, this attractive book explains the principal of the Gas + Air and describes the many improvements made by the manufacturer in bringing out the new model. Basic patents protect Bucyrus-Erie's exclusive right to build this machine. Copy of this bulletin may be had by writing Bucyrus-Erie Company.

The attractive illustration above shows a Cletrac equipped with Bulldozer building trails through one of the Government Forest Reservations. **The Cleveland Tractor Company,** of Cleveland, Ohio, builders of Cletrac, report having received a large order from the U. S. Government Forestry Department for machines to be used on this type of work.

Recently published by the Department of Public Works, **Division of Highways, State of California,** is the Seventh Biennial Report of this department prepared by B. B. Meek, Director of Public Works, and C. H. Purcell, State Highway Engineer and Chief of Division of Highways. The publication is quite an ambitious one of 293 pages, containing numerous illustrations and maps with complete statistics and information regarding work carried out during the biennial period. Reports of various heads of departments, records of registrations, contracts with average contract prices, traffic surveys, materials, tests and so forth. Readers who would like to have copies of this publication should address the California Division of Highways, at Sacramento, California.

The use of high frequency vibration in the placement of concrete, is treated at length in a booklet brought out recently by **The Electric Tamper & Equipment Company, Chicago.** This booklet, "The Biggest Step Forward Ever Made in Concrete," gives the different types of construction work individual treatment, in describing the application of vibration, to them. Subject headings are: Columns, Flat Slabs, Deep Beam Sections, Thin Wall Sections, Tunnels, Pipe Line Encasement, and Concrete Products. The Electric Tamper & Equipment Company will be glad to furnish copies on request. Write them at 400 W. Madison Street, Chicago, Illinois.

TRADE NOTES

Tiny Models Show Dirt Moving Methods

Tiny scale models of two well-known pieces of earth-moving equipment, the Ateco Hydraulic Dirtmover and the "Caterpillar" Sixty, have attracted considerable attention among Equipment Distributors and Excavating Engineers since they were put on display at the plant of the Caterpillar Tractor Co., in Peoria, Illinois.

These expensive toys were built to scale at a cost of almost $3,000.00 by the American Tractor Equipment Co., of Oakland, California, and the Caterpillar Tractor Co., for display at fairs, road shows and exhibitions.

The picture shows the two models hooked together just as their big brothers team up to cut costs on earth-moving jobs all over the world. They are being inspected by Charles Spears, Supervisor of Construction and Governmental Sales for the Caterpillar Tractor Co., and his assistant, F. A. Nikirk. Both are recognized engineers in excavation work.

Fairbanks, Morse & Company has announced the appointment of R. H. Bacon, former advertising manager for the company, as manager of the Pump Sales Division with headquarters in Chicago. Mr. Bacon has been associated with the company since 1925 when he took charge of publicity for the Diesel Engine Division. Shortly thereafter he was placed in charge of general publicity and since 1929 has been manager of the Advertising and Publicity Department. To many of our readers he is well known, having been from 1922 to 1925, associate editor of Power Plant Engineering, prior to that time assistant engineering editor of Electrical World, and for three years assistant electrical engineer for the Copper Range Mining Company.

The Lincoln Electric Company, of Cleveland, Ohio, is conducting the Second Lincoln Arc Welding Prize Competition contest. Prizes totaling $17,500 (the first prize being $7,500) are being offered for papers on one or the other of the following suggestions:

(a) A description of a useful machine, structure, or building, previously made in some other way, that has been redesigned in whole or in part, so that arc welding is applied to its manufacture.

(b) A description of a machine, structure, or building not previously made that has been designed in whole or in part to the use of arc welding and a description showing how a useful result is obtained which was impractical by means of other methods of manufacture. It is not necessary that the machine as redesigned should have been manufactured at time of writing of the paper.

A folder containing complete information will be furnished by the above manufacturer to all those who wish to compete. The contest closes October 1, 1931.

The Owen Bucket Company, of Cleveland, Ohio, announces the opening of a new eastern district office at Room 718, 51 East 42nd Street, New York City, in charge of Mr. B. A. Deline, Manager. This new office will be separate and distinct from the present existing sales and service office located at 36-25 Twenty-second Street, Long Island City, New York, which latter office will continue to handle the sales and service for New York City proper.

The Trackson Co., Milwaukee, Wis., announces the appointment of W. W. Williams Co., 835 W. Goodale St., Columbus, Ohio, as a new distributor for Trackson Tractor Equipment.

This distributor will handle the complete Trackson line of Crawlers, Shovels, Hoists, Cranes, Bulldozers, etc., as well as a stock of repair and replacements parts for these machines.

FOR SALE

Space under this heading is available at the following rates, payable in advance of publication:

1 to 3 inches.....$5.50 an inch net
Over 3 to 7 inches..... 5.25 an inch net
Over 7 to 14 inches..... 5.00 an inch net

An inch is measured vertically on one column—three columns to a page. Any space may be used measured by the even inch in height and by one, two or three columns in width.

The price per inch is based on total space used—multiply ad. space by number of continuous insertions.

Address all box numbers c/o The Excavating Engineer at South Milwaukee, Wisconsin

Small Shovels
Under 2 yards

For Sale

Type B ¾-cubic-yard Erie steamer on traction wheels. In working condition—cheap; located at Stony Point, New York. Inquire Box 198-SS.

TYPE B ERIE SHOVEL; Shop number near 2025, caterpillar mounted, 19-foot 8-inch boom, 16-foot handle, ¾-cubic-yard dipper. Machine in first-class condition, located northwestern Texas. Priced to sell. Box 193-SS.

ONE 18-B BUCYRUS, ⅞-yard dipper on full revolving caterpillars. Box 182-SS.

31-B STEAM SHOVEL, Number 4880, in very good condition; priced right; located Pittsburgh, Pennsylvania. Box 128-SS.

ERIE TYPE "GA-2" GAS + AIR SHOVEL, shop number 4117, mounted on spur gear drive caterpillar trucks, and equipped with a 24-foot boom; 18-foot, 4-inch dipper handle; 1-cubic-yard manganese cast front socket inserted tooth dipper; power boom hoist; air self-starter, and all equipment and appurtenances in accordance with the specifications of the Bucyrus-Erie Company, f.o.b. cars shipping point Virginia. Box 126-SS.

TYPE "B" ERIE STEAM SHOVEL, caterpillar mounted, equipped with 21-foot boom, 18-foot dipper handle, boom hoist, ⅝-cubic-yard dipper; sold new 1924; just completely overhauled; priced reasonably at $1,700. Located vicinity of Chicago. Box 41-SS.

1½-YARD OSGOOD STEAM SHOVEL also dragline and clamshell equipment with 1-yard drag and clam buckets. Bought in August 1926 and reported to be in first class operating condition. Located near Detroit. Box 149-SS.

TYPE "B" ERIE STEAM SHOVEL, caterpillar mounted equipped with 21-foot 3-inch boom, 18-foot 6-inch dipper handle, power boom hoist, ⅝-cubic-yard dipper; in excellent condition; just installed $400 worth of repairs. Located vicinity Kansas City. Box 80-SS.

MARION TYPE 32 COMBINATION DRAGLINE AND SHOVEL, shop number 5683, dragline boom 50 feet, one-cubic-yard drag bucket included. Shovel boom 24 feet, dipper handle 17 feet 6 inches. Manganese front dipper 1¼ cubic yards. Machine purchased new October 1926, original cost $17,500. Will sacrifice and offer terms to reliable party. Located in vicinity of San Antonio, Texas. First-class condition. Address Box 1004-A.